

THE EVER- WIDENING NET:

Mapping the scale, nature and corporate structures of illegal, unreported and unregulated fishing by the Chinese distant-water fleet



Protecting People and Planet

A report by the Environmental Justice Foundation



Protecting People and Planet

The Environmental Justice Foundation Charitable Trust is a UK registered charity that believes we all share a basic human right to a secure natural environment.

EJF has teams based in Belgium, France, Germany, Ghana, Indonesia, Japan, Liberia, Sierra Leone, South Korea, Taiwan, Thailand and the UK. Our investigators, researchers, filmmakers and campaigners work with grassroots partners and environmental defenders across the globe.

Our work to secure environmental justice aims to protect our global climate, ocean, forests and wildlife and defend basic human rights.

Ocean Campaign Mission

To protect the marine environment, its biodiversity and the livelihoods dependent on it.

All images copyright EJF unless stated otherwise.

Printed on 100% recycled paper.

Unit 417, Exmouth House 3/11 Pine Street,
London, EC1R 0JH, UK
info@ejfoundation.org
ejfoundation.org

Registered charity no. 1088128



CONTENTS

Executive Summary	4
Introduction	6
Methodology	7
Section 1 – Characteristics of the CDWF	11
1.1. Contemporary history	11
1.2. Main locations and areas of operation in 2019 and 2020	12
1.3. Onshore structures of the various Chinese Distant-Water Fisheries	16
Section 2 – IUU fishing activities of the CDWF	21
2.1. Location of IUU fishing by CDWF	21
2.2. Location of IUU fishing incidents by gear type	25
Section 3 – Nature of IUU fishing and human rights abuses by CDWF	30
3.1. Nature of IUU fishing by CDWF: Overview	30
3.2. Nature of IUU fishing by gear	31
3.3. Nature of human rights abuses by CDWF	33
Section 4 – Identity of main offenders	38
4.1. Overview	38
4.2. Identity of main offenders: By gear	40
Conclusions	45
Recommendations	46

Abbreviations

» AIS: Automatic Identification Systems	» IOTC: Indian Ocean Tuna Commission
» CBP: United States Customs and Border Protection	» IPO: Initial Public Offering
» CDWF: Chinese Distant Water Fleet	» IUU: Illegal, Unreported, and Unregulated [fishing]
» CITES: Convention on International Trade in Endangered Species of Wild Flora and Fauna	» MARA: Chinese Ministry for Agricultural and Rural Affairs
» CNFC-QSL: China National Fisheries Corporation-Quick State Limited	» MCS: Monitoring, Control, and Surveillance
» CNFC: China National Fisheries Corporation	» NEAFC: North East Atlantic Fisheries Commission
» DWF Regulation: Chinese Distant-Water Fishing Management Regulation	» NGO: Non-Governmental Organisation
» DWF: Distant Water Fleet	» NPC: National People's Congress
» EEZ: Exclusive Economic Zone	» PME: Pingtan Marine
» FAO: Food and Agricultural Organisation of the United Nations	» Reefers: Refrigerated Cargo Ships
» FMFO: Fish Meal and Fish Oil	» RFMO: Regional Fisheries Management Organisation
» IATTC: Inter-American Tropical Tuna Commission	» SIOFA: Southern Indian Ocean Fisheries Agreement
» IEZ: Inshore Exclusion Zone	» SPRFMO: South Pacific Regional Fisheries Management Organisation
» ILO: International Labour Organisation	» STCW-F: The 2012 Cape Town Agreement on Fishing Vessel Safety and of the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel
» IMO: International Maritime Organisation	» UVI: Unique Vessel Identifiers
	» VMS: Vessel Monitoring System
	» WCPFC: Western and Central Pacific Fisheries Commission



A Chinese longline fishing vessel in the Indian Ocean. © EJF

Executive Summary

Driven by the depletion of fish populations in its own national waters and its role as a key processing and exporting state, the Government of the People's Republic of China has supported the rapid expansion of the scale and technological capacity of its distant-water fishing fleet, i.e. vessels operating beyond its exclusive economic zone (EEZ). Today, China has by far the largest of such fleets, operating across the globe in both areas beyond national jurisdiction and in the EEZs of coastal states.¹

The burgeoning body of research that has explored the extent and behaviours of the Chinese distant-water fleet (CDWF) has unveiled the widespread, and harmful, economic, environmental and human consequences linked to overcapacity, high instances of illegal, unreported and unregulated (IUU) fishing, destructive practises such as bottom trawling and the use of forced, bonded and slave labour and trafficked crew, alongside the widespread abuse of migrant crewmembers.²

The CDWF has become a major operator in many developing countries. IUU fishing is particularly prevalent in these regions, augmenting the suffering and vulnerability of many coastal communities.

IUU fishing is facilitated by factors such as a lack of transparency and the opacity of seafood supply chains, limited monitoring, control, and surveillance (MCS) capacity, poor governance and corruption.³ In recent years, EJF has identified continuous instances of IUU fishing and human rights abuses associated with the CDWF in West Africa, especially Ghana, where Chinese companies use elaborate schemes to hide the ultimate beneficial ownership of their so-called Ghanaian domestic vessels. These schemes include joint ventures, shell companies and subsidiaries.⁴

This report presents a comprehensive analysis of China's vast, opaque and at times illegal global fisheries footprint, with the specific aim of informing appropriate and effective responses by fisheries

decision-makers in China and globally. In large parts, it focuses specifically on IUU fishing and associated crimes such as human rights abuses. The CDWF has been chosen as the focus of the study given its size and global reach, the opacity of its operations, and its significant presence within countries in the Global South, where some fish populations are over-exploited to the detriment of coastal communities who rely heavily on healthy marine ecosystems.⁵

It is informed primarily through a rigorous review of data published by the Chinese Ministry of Agriculture and Rural Affairs (MARA) detailing its various offshore fishery projects, i.e. vessels approved by MARA to operate outside of Chinese waters; and information retrieved from the Criminal Record of Fishing Vessels and associated platform 'Spyglass'.⁶ This is the first such published analysis of official MARA data on its DWF, supplementing reports produced elsewhere that have relied on the use of non-governmental sources such as satellite data to estimate the size and location of the CDWF.

The findings of this global review further build on EJF's field based investigations, which have identified a wide range of IUU fishing offences, such as shark finning and fishing in restricted areas, as well as human rights abuses such as physical violence, debt bondage and confiscation of passports.

Illegal fishing, environmental and human rights abuses, together with the failures of governance documented in this report, present a case of profound environmental injustice. These findings highlight the overarching failure of the Chinese government to effectively control and regulate its DWF. This is the latest in the long line of instances in which wealthier nations have externalised the costs of their operations – degrading the natural resources of nations and communities whose contribution to global environmental degradation is comparatively negligible.

Key Findings

- The Chinese fleet has become a substantial presence in multiple developing countries. Over a third of the authorised CDWF operations in 2019 and 2020 covered 29 specific EEZs in Africa, Asia⁷ and South America – the fisheries of many of the regions being characterised by limited MCS capacity and coastal regions heavily dependent on fishing for both nutritional and livelihood needs.
- The CDWF has evolved from being entirely state-owned to being mostly privately owned. It has been argued that this gradual change in ownership structure has loosened the Chinese government's control over the activities of Chinese fishing enterprises. This is also highly relevant to those Chinese-owned vessels operating under a third country flag, that are not registered as offshore fishery projects.
- The CDWF is frequently associated with illegal fishing. According to the data analysed, fishing without a licence or authorisation is the most common recorded illegal fishing incident, constituting 42% of the total. Using prohibited gear and the capture of prohibited species are the next highest ranking offences, at 11.5% and 10.3% respectively. The size of the fleet, coupled with the high instances of suspected IUU fishing, threatens continued socio-economic stability and inflicts ecological harm globally.
- With respect to the projects covering specific EEZs, data published by MARA highlights the EEZ of Mauritania as the one where the presence of the CDWF is by far the most significant – accounting for approximately 30%. Mauritania is a hub of the fishmeal and fish oil industry – which has reaped widespread ecological damage to both terrestrial and marine ecosystems including the decimation of locally important fish populations.
- More broadly, Africa stands out by its apparent importance for the activities of the CDWF, accounting for 78.5% of the approved offshore fishery projects and 20 of the 29 EEZs mentioned in the notices published. Many fish stocks in Africa are heavily exploited, a continuation of which would spell certain disaster for impoverished coastal dwelling communities.
- Trawling vessels appear to be the most common type of vessel covered by EEZ-specific approved offshore fishery projects, with more than three in five fishing vessels using this gear. Bottom trawling, which is a common mode of fishing employed by Chinese trawlers, has significant ecological impacts including high levels of by-catch, the destruction of habitats and the associated release of carbon.
- China has put a clear emphasis on developing its capacity to target squid species in recent years: vessels equipped to target squid now represent more than two in three approved offshore fishery projects covering oceanic areas.
- Whilst data is limited, human rights abuses seem to be common amongst the CDWF, an issue that blights distant-water fishing more generally. Interviews conducted by EJF with 116 Indonesian crewmembers who have worked on vessels belonging to the CDWF indicate that 99% have experienced or witnessed wages being deducted or withheld, 97% have experienced some form of debt bondage/confiscation of guarantee money and documents, 89% have worked excessive overtime, 85% reported abusive working and living conditions, 70% experienced intimidation and threats, and 58% have seen or experienced physical violence. These findings have been echoed in EJF interviews with Ghanaian crew on board CDWF vessels in Ghanaian waters. All 10 crew interviewed had experienced or witnessed physical abuse by Chinese captains, and similarly all 10 reported poor living conditions on the vessels they operated on, including being forced to eat low nutrition food and consume poor quality water – often resulting in sickness and diarrhoea.
- This report makes a series of recommendations, including the adoption of transparency measures from the EJF charter for transparency, bilateral and multilateral dialogues with China to end abuses and for the rapid phasing out of all subsidies to the CDWF ensuring a complete cessation of harmful subsidies no later than December 2023.

Introduction

Globally, more than three billion people rely on the oceans for their livelihood, with over 200 million directly or indirectly employed within the marine fisheries sector⁸ – many of whom are coastal communities in the Global South. However, the proliferation and increased capacity of the heavily subsidised industrial fishing industry, combined with other aggravating factors such as IUU fishing and global heating, has left many such communities in peril. The latest estimates suggest that one third of global fisheries are currently overfished,⁹ with economies losing tens of billions of dollars annually to illicit fishing practices. This assault on our ocean has fundamentally undermined the human rights of coastal dwellers and others reliant on fish for livelihoods and nutrition.

The ramifications of this rapacious overfishing have been exacerbated by the activities of distant water fishing fleets, in particular China's, which is by far the world's largest.¹⁰ The CDWF operates across almost the entire globe – making China comfortably the largest global fish producer.¹¹ Its exact size is uncertain, the fleet has been linked to high instances of IUU fishing,¹² widespread use of harmful fishing gear such as bottom trawls, and a strong presence in regions where fish populations are in jeopardy due to overfishing and

in which there is poor governance and insufficient MCS capacity. West Africa, for instance, which is simultaneously home to communities extremely reliant on fisheries and has long been considered a hotspot for overfishing and IUU fishing, has seen an influx of CDWF vessels since the mid-1980s.¹³ Estimates suggest that the Chinese bottom trawl fleet catches an estimated 2.35 million tonnes per annum in the region – by some estimates, around 50% of China's total distant-water catch – valued at over US\$ 5 billion.¹⁴

The CDWF is substantially bolstered by national subsidies. According to recent estimates by the China Ocean Institute and Oceana, the CDWF accounts for 22% of China's total captured fish, however, the sector receives 49% of harmful capacity enhancing subsidies from the Chinese government to help with costs such as fuel and the construction of vessels and harbours.¹⁵ These harmful subsidies amounted to 11.8 billion yuan (approx. US\$ 1.8 billion) in 2019. To put this in perspective, these subsidies accounted for over 38% of all the harmful subsidies of the top ten subsidising nations, and more than twice as many as any other single country.^{16,17} Moreover, researchers documented that the Chinese government's reporting on its subsidies programme has reduced in transparency since 2012.¹⁸



A fishing community in Senegal, West Africa. © EJF

Estimates suggest that the Chinese bottom trawl fleet catches an estimated 2.35 million tonnes per annum in the region – by some estimates, around 50% of China’s total distant-water catch – valued at over US\$ 5 billion.

A burgeoning body of research continues to map the size, scope and behaviours of the CDWF,^{19,20} in an attempt to comprehend the ecological, economic and social impacts of its operations. These efforts have been invaluable in providing a body of evidence to support advocacy for improved transparency amongst the world’s distant water fleets (DWF), ultimately with the aim of bringing fishing efforts down to sustainable levels and addressing the myriad of environmental injustices inflicted by many contemporary industrial fishing practices.

By using novel data sources, including official data published by MARA and the Criminal Record of Fishing Vessels,²¹ this report will serve as one of the most comprehensive analyses of the scale and behaviours of the CDWF to date. Analysis conducted at the fleet scale and by gear type shows where the CDWF is operating, where suspected IUU fishing incidents are occurring, and their nature. Importantly, the report also looks at the corporations involved in these infringements – mapping the complex onshore corporate structures of the fleet and highlighting the worst offenders according to available data.

Actionable recommendations are made to the Government of the People’s Republic of China, states acting as local flags of the CDWF, coastal states, and the governments of port and major market states to aid in efforts to eliminate IUU fishing and human rights abuses that persist within the fleet and the waters in which they operate.

Methodology

This report has sought to add to the existing body of research that attempts to map the size, location and incidents²² of IUU fishing by the CDWF. By using novel datasets that have yet to be analysed for these means, it can further elucidate the true extent of the most globally significant fishing fleet operating today.

The first such dataset is information published by MARA in line with the Regulations of the People’s Republic of China on the Disclosure of Government Information.²³ There is now publicly available information on vessel inspections, offshore projects, IUU fishing notices, and vessel replacement (these categories of information are explained in more detail below). Whilst the limitations of some of these sources will be discussed, it is an important step by MARA towards transparency.

Between March and October 2017, MARA initiated an overseas distant-water fleet vessel inspection campaign covering the major fishing grounds of the Chinese fleet in every ocean except for the North Atlantic.²⁴ The vessel inspectors from the DWF department of 9 different provinces were assigned to 41 countries in these fishing grounds to inspect a total number of 1383 vessels for their seaworthiness. These vessels were required to arrive at the respective closest inspection site according to the schedule. This inspection plan provided us with the names and associated companies of these vessels, as well as their approximate fishing location.

Article 7(1) of the Distant-Water Fishing Management Regulation (hereinafter DWF Regulation)²⁵ prohibits the act of engaging in distant-water fishing activities without the consent of MARA. To engage in such activities operators must, in accordance with that regulatory instrument, submit an “offshore fishery project” application for approval. In 2019 and 2020, such information was published on the website of MARA in the form of notices.²⁶ Contained within these notices are the proposed location of fishing activities, the identification of the legal persons responsible for the implementation of the projects, the names, types or – where applicable – gears of the fishing and fishing-related vessels they cover, and their duration.

MARA has taken an important step towards improved transparency by releasing notices on IUU fishing infringements involving Chinese vessels, which provide data on the nature and location of the infringement, the status of any investigations, and any sanction imposed.

At the time of writing, these are currently only available for the years 2017 to 2019, however, they provide an important source of data on IUU fishing by China's DWF vessels which should be replicated and improved upon by other major flag states.²⁷ EJF was able to retrieve six IUU fishing notices published by MARA between 2018 and 2020, for the infringements that took place between 2017 and 2019.²⁸ In these notices, MARA published the vessel and company names involved with the infringements, source of the information (e.g., reported by coastal states or Regional Fisheries Management Organisations (RFMOs)), details of the IUU fishing offence, whether the infringement needs to be further investigated, and the sanctioning decision.²⁹

In the beginning of 2021, MARA published a notice³⁰ requesting that each provincial department in charge of a DWF provide vessel data on those that have disappeared (e.g., stolen or sold), were scrapped, or deregistered (e.g., vessels' names changed after replacement³¹) in order for them to be deleted from the national DWF vessel database. This dataset from each provincial authority assisted us with verifying and updating active or inactive vessels, and their current names and companies.

The second of the novel datasets analysed in this report is the spyglass.fish database, which derives its data from the Criminal Record of Fishing Vessels. This platform is to date the most comprehensive, centralised and publicly available dataset depicting the compliance history of fishing vessels – including both alleged and prosecuted cases from a wide variety of sources.³² This dataset provided information on the location and nature of offences, the actors involved (both vessels and operators), and the source of the information (NGO report, official documentation, etc.). The period 2015-2019 was selected for the analysis due to the completeness of available data. At the time of writing, data for 2020 was not yet complete in the Spyglass database, while MARA had only published notices of IUU fishing incidents for the years 2017 to 2019.

Beyond the above, there were additional sources from which data was collected. These include information from Chinese provincial governments, the IHS Sea-Web portal, NGO reports, corporate websites, published and unpublished data collected directly by EJF, published and unpublished government data (primarily from coastal states), and institutional reports.

Data analysis

The information contained in the notices of approved offshore fishery projects published by MARA in 2019 and 2020 was aggregated in a single dataset which also includes information retrieved from available inspection lists. This offers unique insights into the CDWF officially recognised by the Chinese authorities, enabling EJF to not only map the fleets' main locations and areas of operation, but also to analyse the type of vessels covered by these projects and, where applicable, the gears they used. In addition, this dataset includes information on reported ownership.

Similar analyses were undertaken in order to map the nature and location of IUU fishing incidents. Data from the sources mentioned previously were collated, with duplicates removed so as to ensure accuracy of analysis. Once clean, the incidents linked to China were extracted and offences (the categorisation of which can vary depending on the source) grouped together so as to allow for easier quantification.

Data limitations

The industrial fishing sector is characterised in large parts by a lack of transparency e.g. where vessels are operating, who they are owned by, the nature of fisheries agreements, etc. This opacity, coupled with the often geographically remote operations of the fishing industry and the clandestine nature of IUU fishing, can make certain strands of research in fisheries, such as in this report, challenging. In light of this, there are a number of data limitations (and their potential impacts on the results presented) that must be acknowledged.

Confidence level in data analysed

A diverse array of data sources were considered in this study which may not be comparable in terms of confidence level/data quality. This is particularly pertinent when considering data on IUU offences, of which a total of 554 cases were collated from the above listed sources between 2015-2019. Offences reported by official government sources, and especially those that have resulted in sanctions, are associated with a higher degree of certainty compared to offences reported by NGOs (e.g., detected through remote Automatic Identification Systems (AIS) monitoring) that have not been confirmed by the relevant coastal or flag state, or competent regional fisheries body.

Undercounting of the CDWF

Of the 554 cases analysed for this study, 55.1% were categorised by EJJF as confirmed where a conclusive decision was made by the authority after investigation, while 44.1% were categorised as suspected offences with inconclusive results or the vessels fled from prosecution, etc. The remaining 0.8% were cleared of any allegations. Over half (53.5%) of IUU fishing reports were from official sources, with 20.9% of reports from NGOs (**Table 1**).

Table 1: Sources of data on IUU fishing incidents analysed in this study

Source of data	Number of incidents (2015-2019)	Percentage of total
Official	296	53.5
NGO	116	20.9
Unknown ⁱ	142	25.6
Total	554	100

Notes:

ⁱ Reported in the media, or source not specified in the Spyglass dataset.

Throughout the course of the investigation, there are a number of instances in which it appears that the total size of the CDWF according to official MARA data has been undercounted. These potential instances of undercounting manifested in a variety of the data sources.

Whilst there is no internationally-agreed definition of a DWF, this concept is often understood as describing fleets that operate outside the EEZ of their flag state.^{33,34} However, China's understanding of its DWF diverges from that definition. In a context of strong territorial disputes in the China Seas, China excludes from the definition of its distant-water fishing activities all operations carried out in the Yellow Sea, the East China Sea and the South China Sea.^{35,36} On another note, it puts on an equal footing vessels flying its flag and vessels flying the flags of foreign countries but "owned by a citizen, legal person or any other organisation of [China]".³⁷ Excluding the second category would radically change the findings made, particularly in relation to activities taking place in the EEZs of foreign countries which, in a number of cases, imply flag changes to these countries as illustrated by the case of Ghana.³⁸

As footnoted previously in the methodology, EJJF could also only retrieve a partial number of notices of approved offshore fishery projects from the website of MARA (five batches in 2019 and seven batches in 2020).



A Chinese industrial trawler at port in Montevideo, Uruguay. © EJJF



Fishers set their net in Gomoa Fetteh, Ghana. © EJF

This situation calls for full implementation of Article 6 of the Regulations of the People's Republic of China on the Disclosure of Government Information which provides that “administrative agencies shall disclose government information in a timely and accurate manner”.

Cases of countries reporting vessels flying the flag of China operating in their waters whilst not being listed amongst the EEZs covered by approved offshore fishery projects were also identified. That is for example the case of the Seychelles whose authorities report having authorised 44 vessels flying the flag of China to fish in their waters in 2019.³⁹ Whilst no information on licences granted by the Seychelles Fishing Authority to CDWF vessels could be found for 2020, actual fishing activities within the EEZ of Seychelles by this fleet could be identified from data transmitted by vessels via AIS.

The analysis of offshore fishery projects published by MARA also raises concerns about the reliability and accuracy of data published. These concerns are epitomised by the case of Ghana. According to the data published by MARA, Ghana ranks as the 13th most important EEZ in number of approved offshore fishery projects with 13 such projects for the period 2019-2020 (covering 13 fishing vessels). This figure underestimates the actual number of fishing vessels beneficially owned by Chinese natural and legal persons active in the country. As highlighted in a 2021 report,⁴⁰ EJF estimated that at the end of 2019, 8 companies based in China beneficially owned 57 fishing vessels licensed to operate in Ghana's EEZ. On the basis of licence data published by the Ministry of Fisheries and Aquaculture Development of Ghana in June 2020, the discrepancy

between the number of fishing vessels covered by listed approved offshore fishery products and the actual number of vessels operating in the country had not been rectified.

Data bias

Within the industrial fishing industry, there remains a dearth of accurate, comprehensive, and timely data available to the public. There is therefore a strong possibility that those states that do publish data might then create an over-representation of themselves when compared to other nations who report less. Similarly, certain flag states and regions, such as China and West Africa respectively, have received disproportionate attention from NGOs in recent years. This ‘spotlight’ effect may lead to their over-representation in the analysis of IUU fishing prevalence. Conversely, remote areas of the high seas are harder to monitor or may be subject to fewer management restrictions, leading to their under-representation in the analysis; yet illegal and unsustainable activities may be widespread.

Data bias may also be introduced due to spatial variations in enforcement, monitoring and surveillance effort. That there is a lack of identified or recorded cases of IUU fishing or human rights abuses does not necessarily mean that the instances are reduced – and may well reflect a lack of capacity or political will to monitor, record and act upon any suspected contraventions of conservation and management measures.

Section 1 – Characteristics of the CDWF

1.1. Contemporary history

In 1950, global marine capture of fisheries was 16.7 million tonnes,⁴¹ increasing fivefold to 84.4 million tonnes by 2018.⁴² This growth was driven by a rapidly increasing demand as the world population tripled over the same period. Supply-related factors have also made a significant contribution to increasing catches, for example through an increased efficiency in fishing vessels' abilities to locate and capture larger quantities of fish due to major technical developments. Furthermore, public policies have seen substantial government subsidies awarded to many of the world's largest fishing actors – making what would normally be loss-making operations financially viable.

Over this period, Europe, the Americas and Asia are the main regions driving the increase in marine capture. In Asia, the performance of China is notable, particularly in the last four decades. Between 1987 and 2019, China's marine capture production increased by 150%, with a yearly average production growth of 3% over the period, peaking at 8% in the 1990s.⁴³

This coincided with the ramp-up of the deployment of the Chinese fishing fleet in distant-fishing grounds, which began in 1985⁴⁴ as a response to overfishing in China's coastal waters and surrounding seas and as a means of creating employment opportunities.^{45,46} Between 1987 and 2019, the yearly average production of the CDWF grew by nearly 14%, much faster than the country's total marine capture production.⁴⁷ The CDWF now forms an integral part of the country's political priorities and is presented as an important component of the implementation of China's "Going Out" policy and "Belt and Road" initiative.⁴⁸

According to data published by the Food and Agricultural Organisation (FAO), in 2018, China⁴⁹ was the world's largest producer of marine capture – with 12.7 million tonnes produced.⁵⁰ Alone, it accounted for 15% of the world production – 20% of which was reported to originate from its DWF. The China Fishery Statistical Yearbook 2020⁵¹ highlights that China's marine capture production slightly decreased to 12.1 million tonnes in 2019, with the share of the production originating from the DWF remaining stable though the number of vessels listed as distant-water vessels reportedly increased by 47 to reach 2,701 vessels.

The governance of the CDWF occurs across two scales: national and provincial. Compared to the national DWF regulations which mainly provide a legal framework, the provincial regulations play a more direct role in restricting or encouraging aspects of distant-water fishery activities. The dual governance system can often lead to fractured and sometimes contradictory messaging and action being taken around the operations of the CDWF.

National Distant Water Fishery Bases of the People's Republic of China



- **Shandong:** Weihai (Shawodao) DWF base (tuna, squid)
- **Zhejiang:** Zhoushan DWF base (tuna, squid)
- **Fujian:** Fuzhou (Lianjiang) DWF base (other fish)

The issues caused by the partial decentralisation of CDWF governance can be seen in the recent difficulties of reconciling national level demands for sustainability against regional economic ambitions. According to the Thirteenth Five-Year Plan⁵² for the national distant-water fishery strategy in 2017, MARA also established the goal to limit the size of the national distant-water fishery fleet to a maximum of 3,000 vessels by the end of 2020 and the total number of approved DWF companies to 2016 levels. The national goal of controlling the number of vessels and total tonnage is, however, in contradiction to the regional target which is to further develop the distant water fishery sector.⁵³ The provincial/prefectural level governments received pressure from MARA to decrease both the fishing effort of their resource-depleted nearshore fishery⁵⁴ and to control the level of the DWF.

However, to fulfil the mandate of securing regional food security and diversity and building a “strong ocean province”⁵⁵, provincial and regional governments provide subsidies or rewards to encourage companies to purchase vessels from other provinces; to attract companies from other areas to register in their province;⁵⁶ or to trade fish at their provincial/prefectural trading centres.

There has been a significant shift in the patterns of ownership seen in the CDWF. Whilst it has previously been characterised by state-ownership, a significant majority of vessels are now seemingly owned privately. According to analysis conducted in this report, currently, approximately 68.8% of the vessels are owned by private companies, 22.5% of which are directly owned by Chinese government-controlled companies, and an additional 8.7% of which the Chinese government has indirect shareholdings.

Whilst progress has been made, the availability of information on the CDWF remains limited. Though the FAO acknowledges that “the estimates of total catches for China in the FAO database are generally considered to be complete”,^{57,58} China only reports information on species and fishing areas of its DWF for the fisheries products marketed in China. These products represent only about 40% of the catches made by its DWF.⁵⁹

1.2. Main locations and areas of operation in 2019 and 2020

One consequence of this lack of data is the difficulty it creates for those attempting to effectively map its areas of operation – even at the very general level of FAO major fishing areas.⁶⁰ This section of the report seeks to contribute to these efforts through the analysis of MARA offshore fishery projects – exploring the geographies within which the CDWF appears to be most prevalent.

The results of the analysis confirm that three decades after the Chinese fishing fleet started expanding to distant-fishing grounds, China has become a truly global fishing nation which relies significantly on its DWF to consolidate its position as the world’s largest marine capture producer and, as previously highlighted, pursue its political agenda.

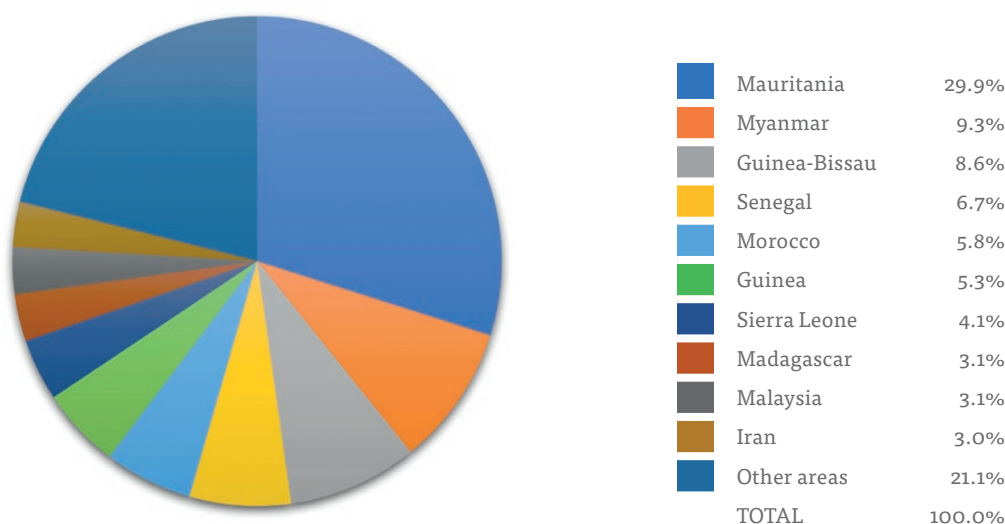
Based on the information retrieved, EJJ found that 33.6% of the approved offshore fishery projects published in 2019 and 2020 covered specific EEZs whilst the remaining 66.4% referred to oceanic areas such as the Indian Ocean or North Pacific. Africa stands out by its apparent importance for the activities of the CDWF, accounting for 78.4% of the approved offshore fishery projects and 20 of the 29 EEZs mentioned in the notices published. Asia ranks second, accounting for 19.7%, followed by South America which accounts for 1.9%. The top ten EEZs in which the CDWF had approved offshore fishery projects can be found in **Figure 1** and the full list in **Appendix 1**.



Chinese squid vessels at port in Montevideo, Uruguay. © EJJ

Of projects covering specific EEZs, the notices published highlight the EEZ of Mauritania as the one where the presence of the CDWF is, by far, the most significant. Mauritanian fishing grounds account for approximately 30% of the vessels covered by projects related to specific EEZs. It is followed by Myanmar, Guinea-Bissau, Senegal and Morocco. Mauritania is one of the most significant West African countries linked to the production of fish meal and fish oil (FMFO), much of which is exported to feed fish farms that serve China, Europe and other wealthier regions.⁶¹ FMFO production has transformed the political ecology of small-pelagic fisheries in the region – as they are caught and sold for processing into FMFO. This puts small-scale fishers, who rely on these species for food and livelihoods, in direct competition with large industrial vessels and multinational corporations (many of which are Chinese), who have exerted their significant political and financial power to access vital natural resources in the country.

Figure 1. Ten foreign EEZs with the largest share of approved offshore fishery projects published by MARA in 2019 and 2020



In respect of the projects covering oceanic areas, the notices published on the MARA website for the period 2019-2020 highlight the importance of the Indian Ocean for the CDWF. It accounts for approximately 27% of the approved offshore fishery projects covering oceanic areas. It is followed by the North Pacific Ocean, Southwest Atlantic Ocean, Southeast Pacific Ocean and “Pacific Ocean”.⁶² The Northwest Pacific, Atlantic Ocean and Southern Ocean complete the list. This subdivision of the Pacific Ocean – and to a lesser extent the Atlantic Ocean – obscures the fact that the Pacific Ocean is the oceanic area where the presence of the Chinese DWF is the most significant (approx. 52%). The full list of oceanic regions can be found in **Table 2**.

Table 2: Offshore fishery projects covering oceanic areas for which information was published and could be retrieved in 2019 and 2020

Oceanic areas	Percentage of the total number of vessels covered by projects related to oceanic areas
Indian Ocean	27.0%
Pacific N	22.9%
Atlantic SW	20.2%
Pacific SE	20.0%
Pacific Ocean	5.0%
Pacific NW	4.3%
Atlantic Ocean	0.4%
Antarctica	0.2%

Source: MARA Offshore Fishery Project notices

Most common gear types registered in offshore fishery projects published by Chinese Ministry for Agricultural and Rural Affairs in 2019 and 2020

Based on the information published by MARA for the period 2019-2020, trawlers were the most common type of vessels covered by EEZ-specific approved offshore fishery projects, with more than three in five fishing vessels operating trawls. This is followed by gillnets and stow nets, respectively accounting for 11.3% and 9.0%; with gillnets mainly used in Mauritania and stow nets reported to be used exclusively in Myanmar.

With regards to oceanic areas, vessels equipped to target squid would represent more than two in three approved offshore fishery projects. The strong and relatively stable presence of vessels equipped to target squid across all oceanic areas (with the exception of the Southern Ocean region) is consistent with the distribution and habitats of squid species,⁶³ and the locations of the main exploited fishing grounds.^{64,65}



Large squid catch on a Chinese industrial vessel. © EJF

It is also consistent with the emphasis China has put on developing its capacity at targeting squid species in recent years. In 2020, MARA described it as the “main object of fishing and utilisation [of the] country’s offshore fisheries” and highlighted that China had become the world’s largest squid fishing nation, trader and consumer.⁶⁶ Data published in the China Fishery Statistical Yearbook 2020 confirms this statement. In 2019, squid species alone accounted for 20% of China’s DWF capture production.⁶⁷ The increasing importance of that segment of the CDWF is illustrated by the evolution of the “Industrial Prosperity Index” over time. This index aims at serving as a barometer of the industrial development and prosperity of the sector. Between 2010 (the reference year) and 2019, it increased by nearly 58% and peaked up to an increase of 74% in 2015 compared to the reference year.⁶⁸

1.3. Onshore structures of the various Chinese Distant-Water Fisheries

Key fisheries and methods of fishing that are associated with the CDWF each have particularities relating to the onshore governance structures. Most notably, perhaps, is the fact that they are often found to be associated with particular provinces. This was evident in data obtained for this report, as well as the strategic papers and the subsidies or rewards provided by the provincial government. The following analysis looks at three key fishing sectors that largely encompass the catch of the CDWF: squid, trawl and tuna. Details of the proportion of CDWF registrations associated with each province can be found in **Table 3**.

1.3.1. Squid fishery

Zhejiang is the major squid-fishing province. While harbouring a quarter of the Chinese fleet and more than 60% of the squid jigging vessels, companies registered in Zhejiang province, however, are numerous but generally smaller in scale. Except for some large enterprises with complete industrial chains from fishery through to market such as Zhoushan Ningtai Ocean Fisheries, Pingtairong Ocean Fishery Group, and China Wanxiang Holdings, about half of the Zhejiang vessels are run by small to medium sized companies which primarily focus on fishery. Moreover, a vessel's ownership often belongs to individuals. This is partly due to the nature and the long history of the squid fishery.⁷²

Table 3: Proportion of top six provinces with CDWF registrations

Province	Percentage of CDWF registrations
Zhejiang	25.2
Fujian	19.6
Liaoning	11.8
Beijing	10.7
Guangdong	8.3
Shanghai	3

Source: MARA Offshore Fishery Project notices

The Zhoushan base in Zhejiang is one of the three national DWF bases in China⁷³ – important logistic hubs harbouring DWF vessels, distributing catches returned to port and facilitating further processing for aquatic product processing companies. The annual squid landing in Zhejiang province constitutes more than 67% of the national squid yield.⁷⁴ However, many vessels and companies in Zhejiang still take advantage of the “dependency model”.⁷⁵ In these cases, the DWF companies do not operate and manage the vessels and their production directly. This makes the DWF management challenging for the provincial authority but also for the enterprises themselves. To mitigate the impact of loose management of the Zhejiang squid jiggers, the DWF authority in Zhoushan has attempted to tackle this problem by appointing a commander vessel, Pu Yuan 801 – tasked with coordinating fishing vessels of different companies to ensure safe and lawful production, and to provide medical treatments in the South-eastern Pacific squid fishing ground.⁷⁶

The loose management of the squid fishery is also reflected in the supply chain. In recent years, the squid-fishing DWF companies in Zhoushan started to collaborate with each other through “cooperatives” which allow them to process, store, transport and sell caught fish as a single entity, facilitating better regulated wholesale and retail prices.⁷⁷ For instance, the largest squid cooperative in Zhoushan – Zhoushan City Pelagic Fishery Professional Cooperative – currently has 255 corporate or individual members who collectively own 370 vessels. The squid cooperative facilitated 20 marine trans-shipments of frozen squid amounting to 107,544 tonnes and achieved a 20.8% increase in sold price per tonne compared to the previous year. Moreover, the affiliate members of the cooperative also receive loans from local banks as a part of the banks’ Offshore Fishery Loan programme, to improve the capital turnover of small and medium size squid DWF companies which are highly dependent on fuel subsidies or easily affected by sluggish sales.⁷⁸ The China National Fisheries Corporation (CNFC) also sells raw squids through the squid cooperative.⁷⁹ Moreover, judging from the IUU fishing cases this report has collected and analysed, the vessels belonging to the same cooperative tend to fish together and are thus also more likely to be involved in IUU fishing incidents together (see **Section 4** for more details).

Even though Zhejiang constitutes a significant portion of the CDWF and the fishing effort, the authorities have acknowledged the development bottleneck due



A Chinese owned trawler in Ghana. © EJJF

to the incomplete processing and distribution network for most of the small or medium-size squid fishing companies. Consequently, since 2018, about two thirds of the squid caught annually by the Zhejiang fleet was sold to Fujian and Shandong provinces for further processing.⁸⁰ For instance, Shandong province only has 25% of the national squid fleet, however, more than 60% of the national squid catch was processed in the national DWF base in Shawodao, Shandong, managed by the Jinghai Group.⁸¹ In order to secure the overall profit of the province, the Zhoushan DWF base has provided financial rewards for every tonne of fish shipped back to Zhoushan⁸² – for instance, 300 yuan (approx. US\$ 47) for each tonne of chilled or ultra-low temperature frozen tuna; 100 yuan (approx. US\$ 15) per tonne of squid, bonito, mahi mahi or saury; 200 yuan (approx. US\$ 31) per tonne for frozen tuna and all other kinds of fish.

1.3.2. Trawl fishery

The Fujian province has the second highest proportion of CDWF registrations (19.6%) with its fleet boasting the largest coverage of the world ocean – Fujian vessels are listed in every fishing ground except for the Northern Atlantic and they contribute to every type of fishery. Despite the higher diversity of its fishery, in general, trawling is the Fujian fleet's focus. Two Fujian enterprises, Pingtan Marine (PME) and Hongdong Fishery, alone own 11% of the entire Chinese DWF vessels, and 95% of their vessels are trawlers. For Hongdong, the caught fish was mainly to replenish the raw material for overseas fish meal factories. Hongdong has been fishing for small pelagic species off the coast of Mauritania since 2010 and subsequently also in Guyana⁸³ – a country that has not been identified as covered by approved offshore fishery projects during EJJF's analysis. The company owns industrialised fishing bases in both countries and is looking for further expansion. On the other hand, PME mainly fishes in Southeast Asia and the Indian Ocean. PME is a Nasdaq Stock Market-listed

company, whose chairman has been accused of using PME and other Chinese and overseas subsidiaries to finance international crimes of fraud, poaching, and even human trafficking, something he strongly refutes.⁸⁴

Fujian province has several important hubs for DWF products. For instance, one of the three national DWF bases is located in Lianjiang county, Fuzhou, Fujian. Moreover, the Fujian government is expanding the Mawei Free Trade Zone, which is currently the largest distribution and processing centre of DWF products in China, and an important seafood trading centre in Asia. More than 500,000 tonnes of DWF products are traded there annually, accounting for 35% of the annual DWF production in China.⁸⁵ Moreover, the Mawei Free Trade Zone is also an important hub for distributing sharks caught by CDWF vessels, part of the products allegedly coming from West Africa.⁸⁶ For instance, China Shark Products Cooperative, located inside the Mawei Free Trade Zone, buys sharks from vessels and distributes them through their global network.⁸⁷ Members of the Cooperative may also have been involved in the notorious illegal shark-transporting case of “FU YUAN YU LENG 999” in the vicinity of the Galapagos Islands in 2017.⁸⁸ The shark species seized on the transporting vessel include several species listed by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) such as scalloped hammerheads, oceanic whitetip sharks, and pelagic threshers, which are all advertised as saleable species on the company website.⁸⁹

The Fujian fleet has the highest production at the national level. By 2023, the Fujian government aims to have 650 DWF vessels, an annual production of 600,000 tonnes, and 65% of the production shipped back to China.⁹⁰ Within the province, Fuzhou – where most of the Fujian DWF companies are located – aimed to achieve 600 operating vessels and 400,000 tonnes of annual production at the city-level by 2020.⁹¹



Chinese industrial vessels at port in Montevideo, Uruguay. © EJF

The city authority acknowledged the difficulty of achieving the goal due to the controls on new vessel registry from the central government, and that only 77% of the target vessel number and 81% of the production goal were achieved.⁹² However, due to Fujian's diverse fishery and a more complete processing facility, a high percentage of fishery product caught by the Fujian fleet is shipped back to the province for further processing (e.g., 74% at the first half of the 2021).⁹³

Some of the DWF subsidiaries of the China Agricultural Development Group have long-term collaborations with several overseas joint ventures on trawling projects. For instance, as a subsidiary of CNFC, Zhongyu Global Seafood manages at least 176 trawler and purse seine vessels, company assets, and 11 fishing projects in African countries, such as Guinea, Guinea-Bissau, Sierra Leone, Senegal, and Madagascar.⁹⁴ A trading company CNFC-Quick State Limited (CNFC-QSL) was established in Las Palmas in the Canary Islands, Spain, in order to facilitate the sales of fish products to European and African markets, and to coordinate fishing and shipping from African fishing grounds.

Another province which is heavily involved in the trawling industry is Liaoning, whose main fishing grounds are in West Africa and the Indian Ocean.

The Liaoning fleet only comprises 12% of the entire CDWF. However, its vessels are predominantly trawlers, making it the province with the highest percentage of trawlers (25% of Chinese trawling vessels). Through analysis of the sanction data published by MARA, it also appears that despite being a relatively smaller fleet, there appears to be high instances of vessels linked to Liaoning involved in IUU fishing activities.

1.3.3. Tuna fishery

Beijing is the only inland administrative district involved in the DWF industry in China. All Beijing-registered companies are controlled by the state-owned enterprise, China Agricultural Development Group, which has several tuna-targeting DWF subsidiaries such as the Chinese stock market-listed (A-share, domestic shares) CNFC Overseas Fisheries and Zhejiang Fenghui Ocean Fisheries. China Agricultural Development Group owns 12.7% of the entire CDWF, and their business covers much more than fishing – including seafood export, repair and maintenance. Most of the fishing projects of the China Agricultural Development Group are in West Africa, the Pacific Islands, and the Indian Ocean. The Pacific Islands are the company's focus in the tuna industry, and among them, Fiji has an



especially long collaboration history with CNFC. The CNFC's representative in Fiji manages 42 tuna longliners and 553 fishers fishing around the Pacific Islands. In 2016, the fleet landed 14,000 tonnes of tuna.⁹⁵ The caught tuna were shipped back to Fiji to go through initial processing. The main clients of CNFC are primarily in the United States and Japan.

In recent years, CNFC has extended their focus to Vanuatu. The Zhongwa Fishery is a joint venture of CNFC and the Vanuatuan government. Previously, tuna caught in Vanuatu's EEZ had been shipped to Fiji for further processing.⁹⁶ However, Zhongwa Fishery has since established ports and onshore processing sites in order to facilitate fish landing, and to extend the tuna production chain in Vanuatu.⁹⁷ In return, the Vanuatuan government has promised to facilitate the issuing of fishing licences and the development of fishery resources within their EEZ.⁹⁸

Another province focused on the tuna industry is Shandong. Its tuna vessels account for 30% of the national tuna fleet. The main fishing grounds for Shandong province are the Indian Ocean, the Pacific Islands, and West Africa. Like Fujian province, the DWF industry in Shandong is controlled by several large enterprises that possess fleets of a considerable size (more than 30 vessels) and mature processing and sales capacity. Vessels from the top five Shandong DWF companies account for 34.8% of the provincial vessels. Several Shandong DWF companies are listed on the national stock exchange market, including Shandong Zhonglu Oceanic Fisheries⁹⁹ and Rongcheng Homey Ocean Fishing.¹⁰⁰ Other important enterprises include Xinfu Holdings (owns the DWF company Lanrun Group), Qingdao Luhaifeng Foodstuff Group (owns Qingdao Yuantong Pelagic Fisheries), and Jinghai Group.

Rongcheng city in Shandong is one of the national DWF bases in China, and is an important tuna landing site. For instance, the city has one of the largest tuna processing facilities in the country owned by Xinfu Holdings. Before 2010, 90% of tuna caught by the Chinese fleet was sold to foreign countries such as Japan for further processing due to the lack of technical ability.¹⁰¹ Enterprises such as Xinfu Holdings and Qingdao Luhaifeng started to invest in extending the processing chain and utilising tuna from flesh to bones. Today, 100% of tuna caught by Xinfu Holdings is shipped back to China for further processing – ranging from tuna cans to collagen peptides powder.¹⁰² Since 2012, Qingdao city government in Shandong has promulgated several notices and introduced subsidies and rewards targeting further development of its DWF industry and the “blue granary” – the seafood resources.^{103,104} Attracted by the financial rewards, five DWF companies from other provinces have since relocated to Qingdao city,¹⁰⁵ whose fleet has grown 17-fold within the past eight years, with an additional 169 vessels since the introduction of the new policy.¹⁰⁶

In recent decades in Zhejiang province, larger enterprises like Zhejiang Ocean Family (China Wanxiang Holdings) have switched their focus from squid to tuna. Zhejiang Ocean Family has 15 branches and 18 subsidiaries scattered across China, Argentina, Kiribati, and Hong Kong, and they cover various seafood-related sectors ranging from fishing and catering, to retail.¹⁰⁷ In recent years, Kiribati's EEZ has become an important fishing ground for Zhejiang Ocean Family, whose one billion yuan (approx. US\$ 157M) investment in the small island nation's tuna industry is Zhejiang Ocean Family's highest overseas investment so far.¹⁰⁸ In 2020, Zhoushan DWF base landed and processed 120,000-140,000 tonnes of tuna and tuna-like species from the Chinese purse seine fleet operating in the Central and Western Pacific, including 70,000 tonnes contributed by companies based in Zhoushan.¹⁰⁹ About 43% of Ocean Family's tuna was sold to overseas markets. For instance, its long-time client, the Japanese Mitsubishi Group, contributes about 11% of Ocean Family's annual income.¹¹⁰



Chinese trawlers at port in Dakar, Senegal. © EJF

Moreover, the tuna market within China is also growing, including for high-end chilled fresh products such as Bluefin Tuna. In relation to this particular species, it is reported that Ocean Family supplied 60% (300 tonnes) of China's demand in 2018.¹¹¹ Products are also sold via emerging e-commerce platforms such as Fresh Hema and Jingdong. Zhejiang Ocean Family is currently seeking to be listed on the Chinese stock exchange.

The majority shares of Zhejiang Ocean Family appeared to be ultimately held by Wanxiang Holdings (76.5%) with Chairman Weiding Lu listed as the ultimate beneficiary, thus the company considers itself a privately-held entity. However, several state-owned companies together have a considerable indirect share of interest in the Zhejiang Ocean Family (23.5%).¹¹² Focusing on the agricultural sectors, Wanxiang Group has been classified as a nationally important corporation by the Chinese State Council. Based on the company's 2015 annual report, the previous CEO Guanqiu Lu, Weiding Lu's father, was formerly a member of the National People's Congress (NPC), and one of Wanxiang's board members had received a special salary from the State Council.¹¹³ The conglomerate also receives government support in exchange for fulfilling

national policy objectives¹¹⁴ – at least US\$ 6.5 million in the form of government subsidies in 2015, and approximately \$8.8 million in 2016.¹¹⁵

Although the size of the tuna fleet is relatively small in Liaoning province, the CEO of one of Liaoning's largest tuna-fishing enterprises, Dalian Ocean Fishing, Zhenyu Li, also associates with the large tuna-targeting enterprise, the Shanghai Kaichuang Deep Sea Fisheries, through investment. Dalian Ocean Fishing is a Chinese subsidiary of the Cayman Islands-registered shell company, China Tuna Industry Group Holdings Limited.¹¹⁶ Its tuna longliner business in China is managed by the holding company, Dalian Longtai Investment (Dalian Jinmu Investment Group). Dalian Ocean Fishing has had several failed attempts to be listed on the Chinese stock market. In 2014, Greenpeace revealed that the company used outdated data for bigeye tuna populations and overestimated the sustainability of the species.¹¹⁷ Subsequently, the company pulled its initial public offering (IPO) which was backed by Deutsche Bank AG from the Hong Kong Stock Exchange.¹¹⁸ In 2016 and 2018, Dalian Ocean Fishing had another two failed attempts of reverse the takeover of one ore smelting company and a food company to make its way to the Chinese stock exchange.¹¹⁹

Section 2 – IUU fishing activities of the CDWF

2.1. Location of IUU fishing by CDWF

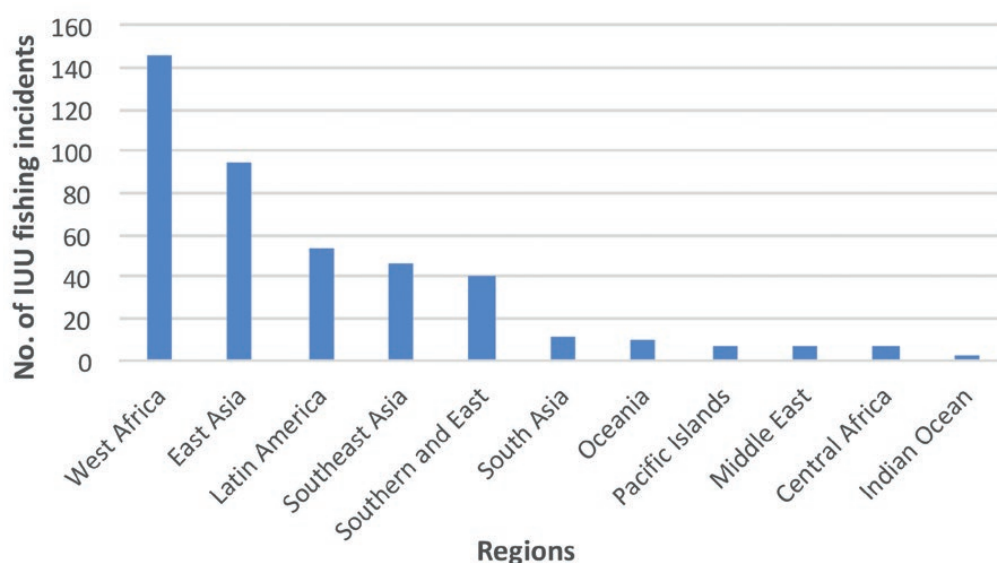
An analysis of the spatial distribution of IUU fishing offences between 2015 and 2019 (**Table 4**) shows that West Africa was the region with the highest number of incidents (within EEZs), accounting for 28% of offences for which location information was specified (**Figure 3**). The highest number of offences in West Africa were identified for Ghana, followed by Sierra Leone and Mauritania (**Figure 4**). EJF has identified further instances of suspicious vessel activity involving Chinese-owned trawlers in Ghana, including multiple alleged incursions into the Inshore Exclusion Zone (IEZ) reserved for small-scale fishers (**Appendix 2**).¹²⁰ These incidents were not included in the analysis so as not to over-represent Ghana with regard to IUU fishing prevalence due to EJF's presence in the country.

Table 4: IUU fishing incidents associated with the CDWF 2015-2019

Year	Number of incidents (2015-2019)	% of total
2015	18	3.2
2016	140	25.2
2017	253	45.8
2018	95	17.1
2019	48	8.7
Total (2015-2019)	554	100.0

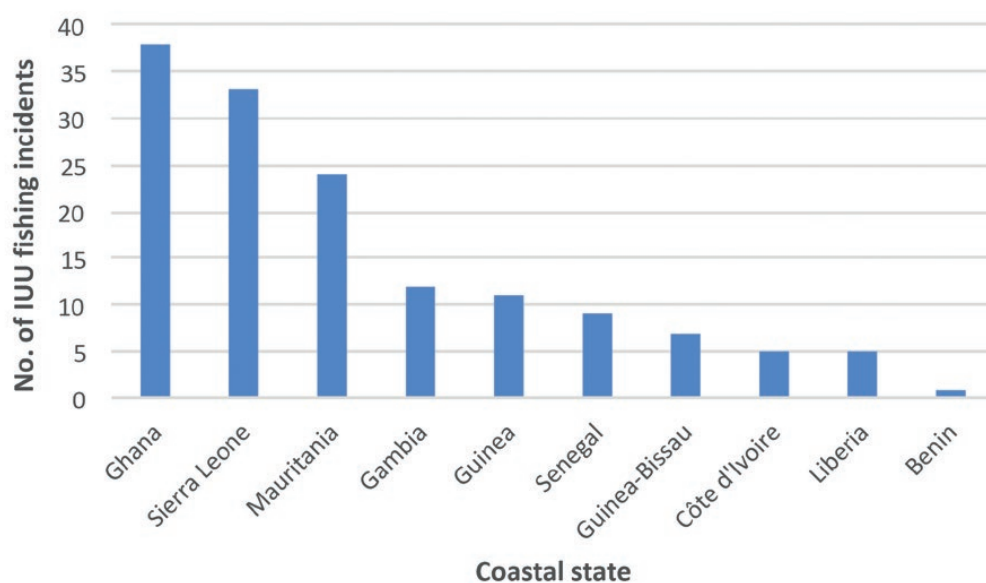
Source: Coastal state governments, EJF findings, MARA IUU fishing notices, media/NGO reports, Spyglass

Figure 3: Location of IUU fishing incidents involving Chinese-flagged or owned DWF vessels within EEZs (2015-2019)



As previously mentioned, West Africa has long been considered a hotspot for IUU fishing. The findings made on the location of such incidents involving Chinese-flagged or owned DWF vessels within EEZs support such a claim. However, the region has been the target of multiple joint operations by combinations of regional institutions (e.g. the Sub-Regional Fisheries Commission)/NGOs/coastal states, as well as NGO investigations into illegal fishing activity, as detailed in **Case Studies 1-2**. As highlighted in the methodology, the intensive focus of recent NGO campaigns in West Africa – as well as the significance of the region for the activities of the CDWF – may serve to over-represent the region in terms of IUU fishing. Nevertheless, the prevalence of IUU fishing has particularly critical implications, in view of local reliance on marine fisheries resources for livelihoods and food security in the region.

Figure 4: Distribution of IUU fishing incidents involving Chinese-flagged or owned DWF vessels across West African coastal states (2015-2019)



A small-scale fishing community in Sierra Leone. © EJF

Case Study 1: Greenpeace and Sea Shepherd at-sea patrols in West Africa

Greenpeace International and the Sea Shepherd Conservation Society are international NGOs working globally to conserve marine animals and combat IUU fishing. Both organisations have operations that involve collaborating with, and providing support to, coastal states in West Africa to conduct at sea operations to apprehend vessels suspected of IUU fishing.

Both NGOs have conducted monitoring and boarding of vessels suspected of IUU fishing across the Gulf of Guinea, including in The Gambia, Guinea, Liberia and Sierra Leone. On a number of occasions, vessels that were subject to inspection by the NGOs were linked to Chinese ownership.

In 2017, the Sea Shepherd crew assisted Liberian authorities with the arrest of a Chinese-flagged reefer 'M/V HAI FENG 823' at port in Monrovia, a 74 metre vessel with a history of IUU fishing, and suspected of receiving fish from other IUU fishing vessels.¹²¹ A close inspection of the vessel and its cargo found that it was carrying 81 tons of unauthorised and unreported fish on board. The vessel was ultimately arrested for three charges: lying to a Liberian Coast Guard officer, presenting falsified documents and conspiring to evade the tax and customs laws of Liberia.

In November 2020, this time in The Gambia, Sea Shepherd assisted in the detention of Chinese flagged vessel 'JURONG YU 9' – which was arrested and taken to port in Gambul. The vessel was found to have irregularities in its fishing log book, and failing to show proper markings on the vessel – with different names presented on its bow and stern.¹²²

In March of 2017, the Greenpeace vessel 'Esperanza' undertook joint surveillance operations in the EEZs of Guinea Bissau, Guinea, Sierra Leone and Senegal – an excursion that inspected 37 vessels and identified 17 vessels thought to be operating in contravention of relevant fishing regulations.

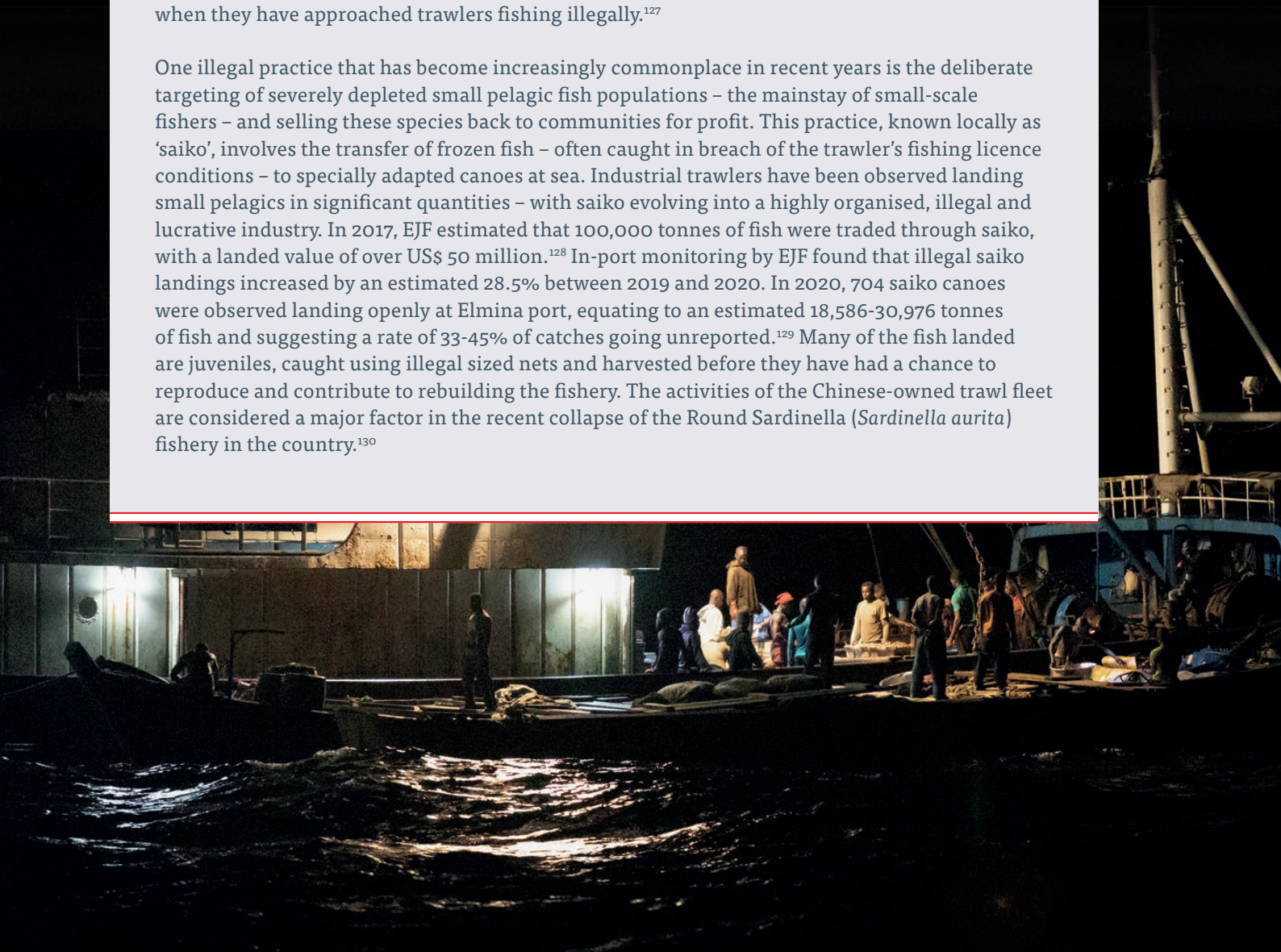
Of these 17 vessels, 9 were flagged to China, and were accused of a range of offences. In Guinea Bissau, three Chinese vessels (the YI FENG 8, YI FENG 9 and YI FENG 10) displayed their names only in Chinese. This is in breach of local laws that dictate all vessel names must be easily recognisable to local officials. A further Chinese vessel (the CHANG YUAN YU 05) was arrested for a previously unpaid fine for the use of illegal nets in September 2016. Further vessels were arrested in Guinea, for offences including shark finning and illegal net adjustments, and in Sierra Leone for illegal nets, no logbooks and offloading without proper authorisation.

Case Study 2: EJF's findings on illegal activities of Chinese-owned bottom trawlers undermining human rights in Ghana

The economic benefits accruing to West African coastal states from bottom trawling are limited,¹²³ making the destructive nature of this gear type all the more unpalatable.¹²⁴ EJF has paid close attention to the Chinese-owned trawl fleet in Ghana for a number of years, identifying how this destructive mode of fishing fundamentally undermines the human rights of small-scale fishing communities in the country. A 2021 report by EJF found numerous human rights issues arising in large part due to industrial overfishing and IUU fishing operations, including 80-90% of fishers and post-harvest workers reporting a decline in income over the past 5 years, 75% of fishers reporting increased encounters with trawlers and 70% claiming they have had fishing gear damaged by them.¹²⁵ The same study depicts the ripple effects of reduced income, with 50% of fishers and 60% of post-harvest workers stating that they have gone without sufficient food in the last year, 15-20% of children having left school before finishing primary education and between 70%-75% of respondents saying that their living conditions have declined over the past 5 years.

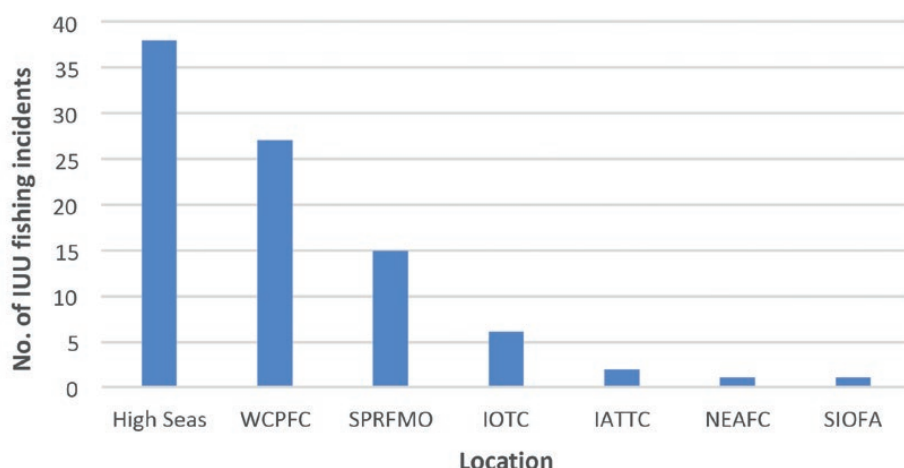
EJF has observed a wide-range of suspected IUU fishing by the fleet, frequently communicating such instances to Ghana's Ministry of Fisheries and Aquaculture Development (MOFAD). Using both satellite tracking data and local informants, EJF has documented frequent suspected and confirmed incursions by Chinese owned trawlers into the Ghanaian IEZ between 2017-2021.¹²⁶ Beyond creating direct competition for fish stocks between large industrial vessels and local communities, these incursions can damage fisher's nets, endanger smaller vessels through the risk of collision and increase the risk of conflict – with some fishers reporting threats and abuse when they have approached trawlers fishing illegally.¹²⁷

One illegal practice that has become increasingly commonplace in recent years is the deliberate targeting of severely depleted small pelagic fish populations – the mainstay of small-scale fishers – and selling these species back to communities for profit. This practice, known locally as 'saiko', involves the transfer of frozen fish – often caught in breach of the trawler's fishing licence conditions – to specially adapted canoes at sea. Industrial trawlers have been observed landing small pelagics in significant quantities – with saiko evolving into a highly organised, illegal and lucrative industry. In 2017, EJF estimated that 100,000 tonnes of fish were traded through saiko, with a landed value of over US\$ 50 million.¹²⁸ In-port monitoring by EJF found that illegal saiko landings increased by an estimated 28.5% between 2019 and 2020. In 2020, 704 saiko canoes were observed landing openly at Elmina port, equating to an estimated 18,586-30,976 tonnes of fish and suggesting a rate of 33-45% of catches going unreported.¹²⁹ Many of the fish landed are juveniles, caught using illegal sized nets and harvested before they have had a chance to reproduce and contribute to rebuilding the fishery. The activities of the Chinese-owned trawl fleet are considered a major factor in the recent collapse of the Round Sardinella (*Sardinella aurita*) fishery in the country.¹³⁰



Outside of coastal state EEZs, the highest number of IUU fishing offences involving CDWF vessels were identified on the high seas,¹³¹ accounting for 7% of offences for which location information was specified (**Figure 5**), followed by the Western & Central Pacific Fisheries Commission (WCPFC), South Pacific Regional Fisheries Management Organisation (SPRFMO) and Indian Ocean Tuna Commission (IOTC) Convention areas (accounting for 5%, 3% and 1% of total offences, respectively).

Figure 5: Location of IUU fishing incidents involving Chinese-flagged or owned DWF vessels outside of EEZs (2015-2019).



2.2. Location of IUU fishing incidents by gear type

Vessel/gear type could be discerned for 350 of the 554 cases: of the 350 cases, 31% involved trawl vessels (demersal, cephalopod and midwater trawlers), with longliners and squid jiggers accounting for 28% and 20% of cases, respectively (**Table 5**). Together, these three vessel types accounted for almost 80% of identified IUU fishing incidents involving the Chinese DWF, with purse seiners accounting for a further 12% of the total.

Table 5: IUU fishing incidents linked to CDWF vessels by vessel/gear type (2015-2019)*

Vessel (gear) type	No. of IUU fishing incidents identified (2015-2019)	Percentage of total IUU fishing incidents identified in this study	Percentage of IUU fishing incidents for which vessel/gear type ascertained
Trawler	108	19.6	31.1
Longliner	98	17.7	28.0
Squid jigger	69	12.4	19.7
Seiner	42	7.6	12.0
Gillnetter	15	2.7	4.3
Reefer	7	1.3	2.0
Driftnet	7	1.3	2.0
Drifting longline	3	0.5	0.9
Other/not specified	205	36.9	-
Total	554	100.0	

Notes * Where specified/possible to discern from the data available.

Source: Coastal state governments, EJF findings, MARA IUU fishing notices, media/NGO reports, Spyglass



Chinese trawlers at port in Dakar, Senegal. © EJF

2.2.1. Trawlers

Of the total IUU fishing incidents analysed involving trawlers, at least 44% of offences involved demersal trawlers.¹³² The west coast of Africa is a key destination for demersal trawling by the CDWF. According to some estimates, the region hosts around 350 Chinese DWF vessels,¹³³ an estimated three quarters of which are bottom trawlers targeting demersal fish and bottom-dwelling invertebrates, notably shrimp. Analysing the data published by MARA in 2019 and 2020 on the approved offshore fishery projects, EJF found that 559 of such projects received approval in the region. As previously highlighted, MARA's data also highlighted the intensive use of trawl gears in foreign EEZs by the CDWF. Annual catches by China's bottom trawl fleet in West Africa have been estimated at around 2.35 million tonnes per annum, or around 50% of the country's total distant-water catches, with a landed (ex-vessel) value of approximately US\$ 5.4 billion per year.¹³⁴ The EEZs of Ghana, Indonesia and Guinea were the location of over half (56%) of IUU fishing incidents involving

Chinese-flagged or owned industrial trawl vessels identified during the period 2015-2019. The Gambia and Sierra Leone were the location for a further 15% of total offences by the trawlers of the CDWF.¹³⁵ The impacts on coastal communities in West Africa of intensive trawling, overcapacity, IUU fishing and other interlinked stressors such as global heating, are devastating. However, not all feel these impacts equally – with social structures and inequitable power dynamics often meaning they can be worse depending on gender, caste, wealth and age (**Case study 3**).

Case Study 3: The gendered impacts of unsustainable fishing in West Africa

The pressures placed on West African fisheries following decades of overfishing by industrial trawlers has had a catastrophic impact on coastal communities in the region – driving nutritional deficiencies, lost livelihoods and poverty. Estimates suggest that the income of some canoe fishermen has fallen by 40% in the last two decades.¹³⁶ The knock-on effects of this reduction in catch and associated financial hardship are reduced access to healthcare, education, and alternative livelihood opportunities – creating a cycle of exacerbated poverty and human suffering, as well as further ecological degradation.



Ghanaian women sell fish at Bawjiase market, Central Region, Ghana. © EJF

Research continues to find, however, that women are disproportionately impacted by declining fish populations.¹³⁷ Broadly speaking, the various roles in the small-scale fishing communities of West Africa are distinguished by gender – with men predominantly travelling out to sea to capture fish and women tasked with post-harvest roles, including the processing and sale of fish.

Whilst women are integral to the small-scale fishing economy, patriarchal social structures and gender bias across institutions often leave them disempowered – excluded from fisheries governance decisions and having reduced access to capital. It has been noted that a response to the lack of financial income resulting from reduced catch has forced some women in the region into transactional sex (known as ‘fish for sex’), and left some vulnerable to predatory financial loans.¹³⁸

Research from various West African nations including Ghana¹³⁹ and Senegal¹⁴⁰ has also found that women in fishing communities find that their lack of access to capital and other resources is compounded by social norms in which they are responsible for household upkeep and childcare. **As such, in the face of declining fish stocks, women who could normally rely financially on their husbands are faced with the ‘double burden’ of unpaid care work as well as engaging in the economy – often taking the form of petty trading or fish processing.**

2.2.2. Longliners

The majority of IUU fishing incidents involving Chinese-flagged or owned industrial longline vessels identified during the period of 2015-2019 occurred in areas beyond national jurisdiction (**Figure 6**). Just under a third of all incidents (31%) occurred within waters governed by the WCPFC, with the high seas (in areas not covered by RFMOs) being the second most common location (20%). The next three highest regions were the EEZs of Tanzania (14%), Somalia (8%) and the Galapagos Islands (5%).

2.2.3. Squid jiggers

The majority of IUU fishing incidents involving Chinese-flagged or owned industrial squid jigger vessels identified during the period of 2015-2019 occurred within the EEZ of Argentina (61%), with the high seas under the jurisdiction of the SPRFMO second (16%) and the high seas third (6%) (**Figure 7**). The largest number of instances occurred in the waters surrounding South America, as the fertile squid fishing grounds make the region appealing to DWFs.¹⁴¹ The above findings support research conducted elsewhere that has identified suspected illicit behaviours by fleets

targeting squid in the region. Examples of this are Chinese and Spanish vessels ‘going dark’ i.e. switching off their AIS transmitters for large swathes of time, a behaviour associated with deliberate evasion of monitoring efforts.¹⁴²

From a broader perspective, it is of note that CDWF vessels equipped to target squid maintain significant operations in major squid fishing grounds not covered by any regional fisheries management organisations or arrangement. That is the case in the Southwest Atlantic Ocean, but also in the Northwest Indian Ocean.¹⁴³ To date, conservation and management measures applicable to high seas fishing grounds in these areas continue to solely be in the hands of flag states. While this situation may not qualify as “unregulated fishing” as defined in the FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing, it does raise serious concerns about the conditions in which fishing activities are undertaken in the areas concerned; particularly when considering the prevalence of IUU fishing incidents involving Chinese-flagged or owned industrial squid jiggers in the EEZ of Argentina (bordering the high seas of the Southwest Atlantic Ocean) and recent research highlighting the growing importance of the Northwest Indian Ocean squid fishery associated with risk of illegal fishing activities.¹⁴⁴

Figure 6: Location of IUU fishing incidents perpetrated by Chinese-flagged or owned longliners (2015-2019)¹⁴⁵

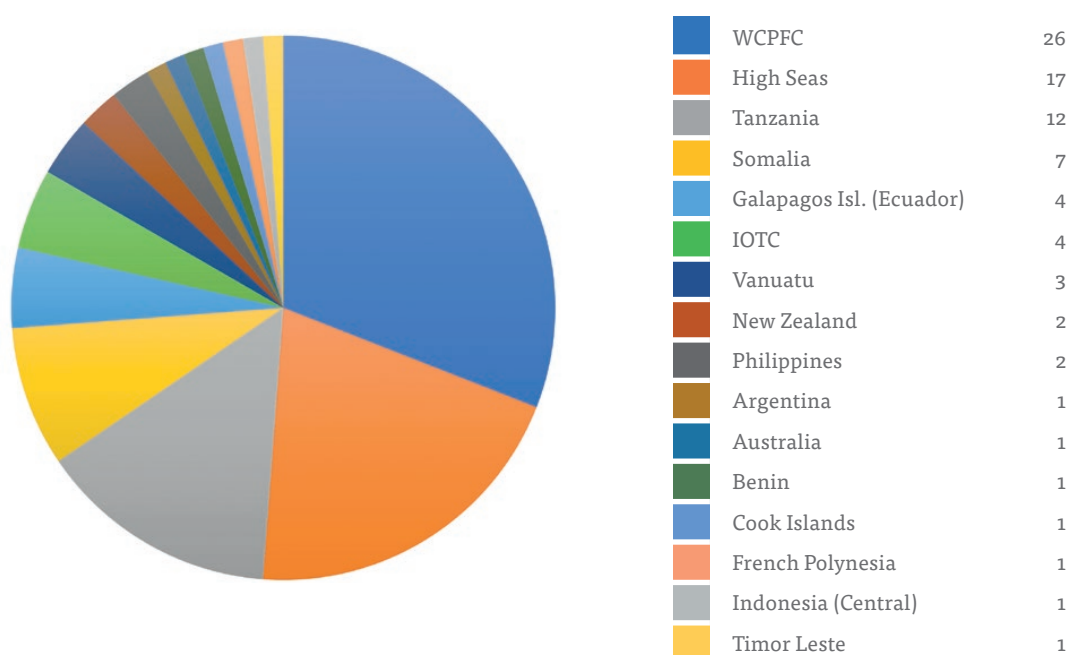
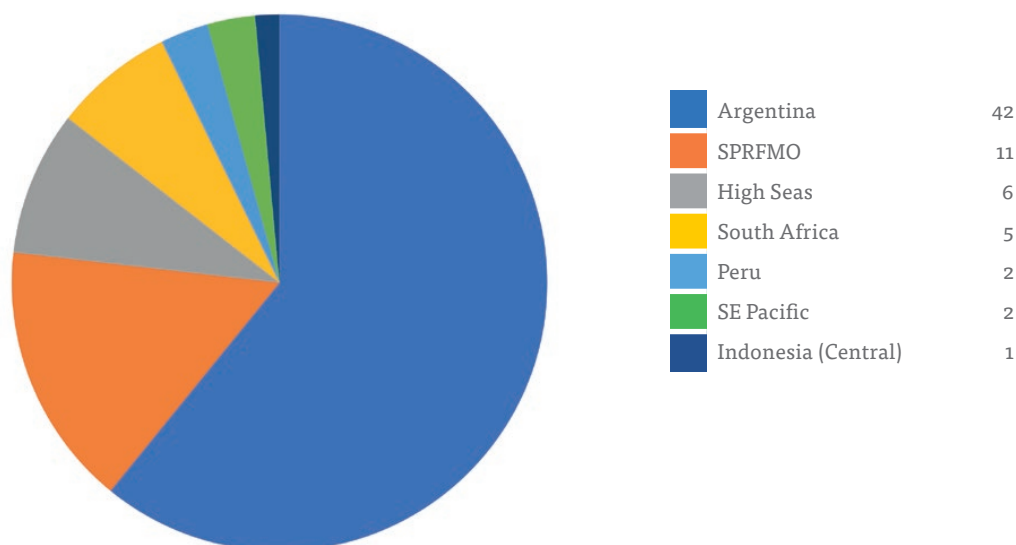


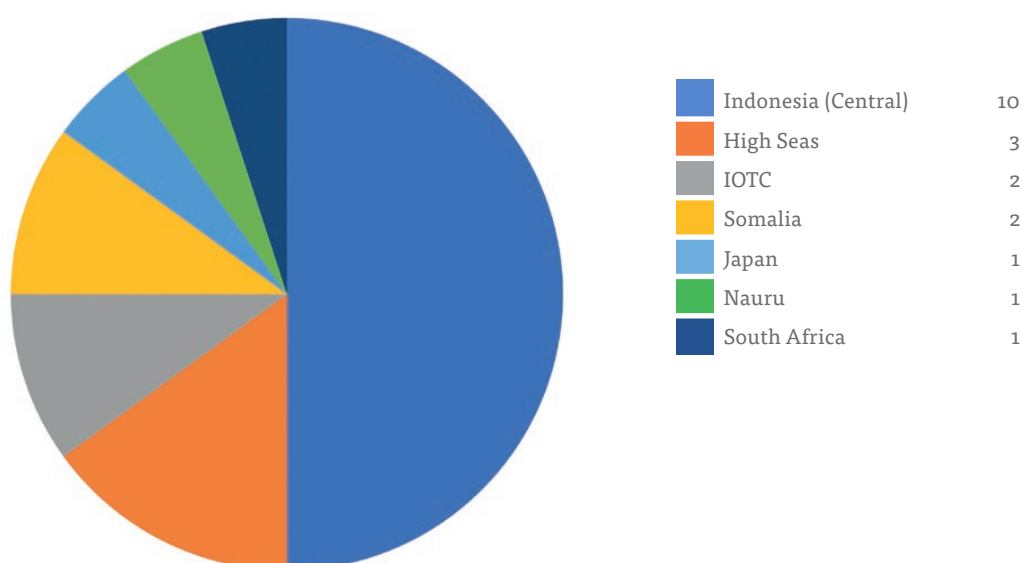
Figure 7: Location of IUU fishing incidents perpetrated by Chinese-flagged or owned squid jiggers (2015-2019)¹⁴⁶



2.2.4. Purse Seiners

The majority of IUU fishing incidents involving Chinese-flagged or owned industrial purse seiners vessels identified during the period of 2015-2019 occurred within the EEZ of Indonesia (50%), with the high seas second (15%) and the IOTC (10%) joint third with the EEZ of Somalia (Figure 8).

Figure 8: Location of IUU fishing incidents perpetrated by Chinese-flagged or owned purse seiners (2015-2019)¹⁴⁷



Section 3 – Nature of IUU fishing and human rights abuses by CDWF

3.1. Nature of IUU fishing by CDWF: Overview

IUU fishing is a broad term, encompassing a range of behaviours that vary depending on region, gear types, fleets, and business models amongst other things. As the findings of this report have shown above, the CDWF is suspected of conducting IUU fishing operations at a disproportionately high rate – across much of the globe both in the EEZs of coastal states and the high seas.

EJF's analysis suggests that the most common offence conducted by the CDWF is fishing without a licence/authorisation, with 237 instances constituting 42.7% of the total. Using prohibited gear types was the second most common unique offence with 64 counts and 11.5% of the total. Fishing for prohibited species was the next most frequent with 57 counts making 10.3% of the total. The full list of offences can be seen below in **Table 6**.

The above findings on the nature of IUU fishing are consistent with information obtained through interviews conducted by EJF with Indonesian crew onboard CDWF vessels. These found a high proportion of the 116 crew interviewed had seen some form of IUU fishing. For example, 95% of those spoken to had seen sharks being finned, 22% and 38% had seen dolphins and false killer whales killed respectively, and 34% reported seeing other protected species including seal and turtles being caught and killed.



A dolphin onboard a Chinese squid vessel. © EJF

Table 6: Offences conducted by the CDWF 2015-2019¹⁴⁸

Offence	Count	Percentage of total
Fishing without licence/authorisation	237	42.7
Other fisheries violation	181	32.6
Use of prohibited gear	64	11.5
Fishing for prohibited species	57	10.3
Violations relating to documentation, identity, markings and flaggings	50	9.0
Other (e.g. drugs)	39	7.0
Failure to report/declare catch	38	6.8
Shark finning	37	6.7
Fishing in IEZ/prohibited areas	18	3.2
Failure to report AIS/Vessel Monitoring System (VMS)	17	3.1
Human rights abuses	16	2.9

Source: Coastal state governments, EJF findings, MARA IUU fishing notices, media/NGO reports, Spyglass

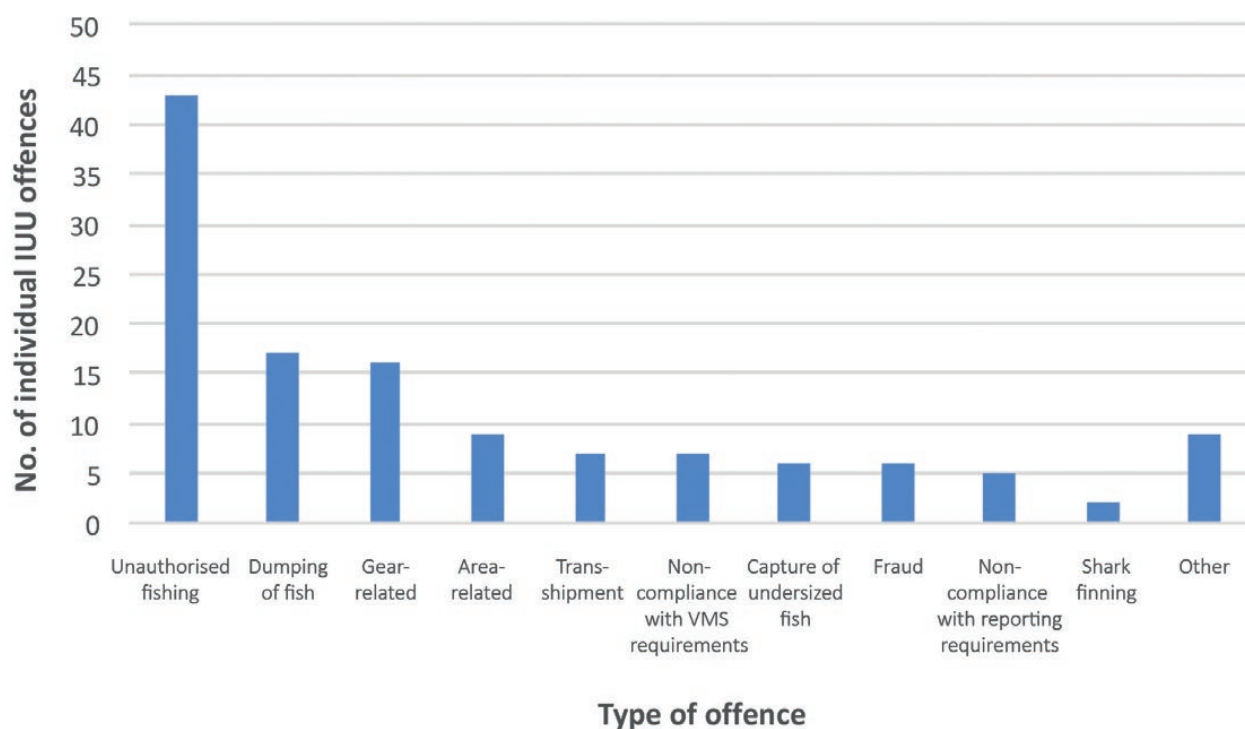


3.2. Nature of IUU fishing by gear

3.2.1. Trawlers

The most common type of IUU fishing incident conducted by trawlers was unauthorised fishing (42 individual offences¹⁴⁹ representing 34% of the total), primarily fishing without a licence in coastal state waters. The illegal discarding of catches accounted for 13% of the total, followed by gear-related infringements (use of illegal mesh size, top-side chafers and obstruction of mesh) and area-related infringements (fishing in the IEZ or other prohibited areas), which accounted for 13% and 7% of total individual offences, respectively.

Figure 9: Types of IUU fishing offences perpetrated by Chinese-flagged or owned trawlers (2015-2019)

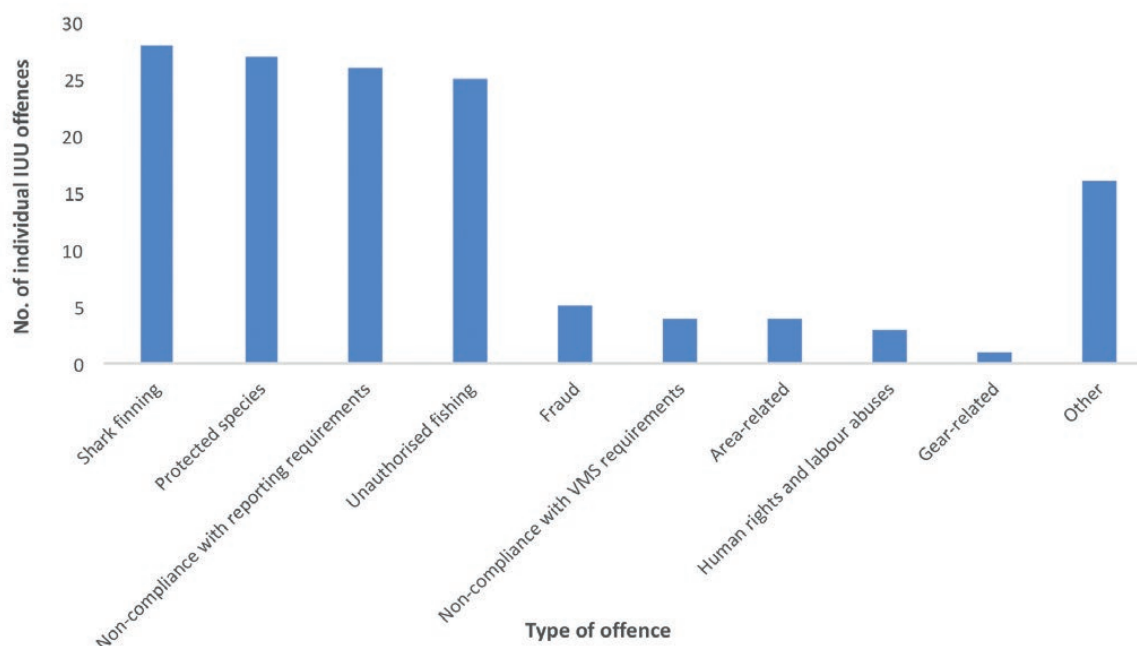


3.2.2. Longliners

The most common type of IUU fishing incident conducted by longliners was shark finning (28 individual offences¹⁵⁰ representing 20% of the total). This was closely followed by the capture of protected species (19% of individual offences), non-compliance with reporting requirements (19% of total) and unauthorised fishing (18% of individual offences).

Longline vessels were also found to have engaged in fraudulent activities (5% of individual offences), including use of illegal markings, under-reporting of gross register tonnage, and forgery of licences. Non-compliance with vessel monitoring requirements (lack of functional VMS, tampering with vessel positions, and switching off AIS) and catch reporting obligations (failure to maintain or complete a logbook) were also identified, accounting for 6% and 5% total individual offences, respectively.

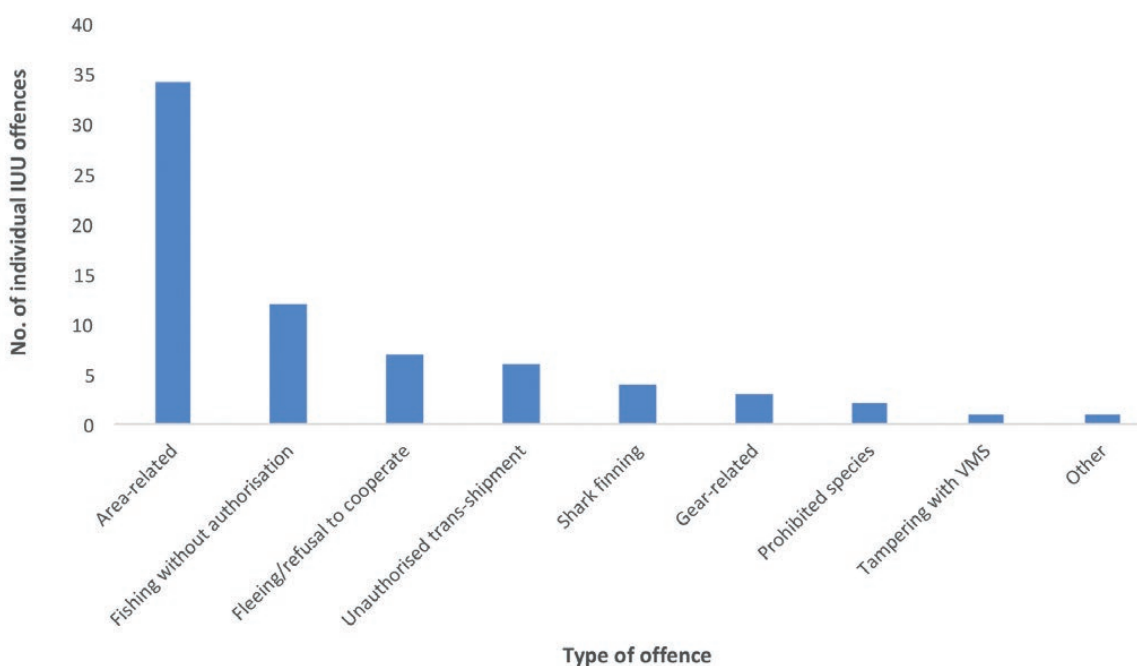
Figure 10: Types of IUU fishing offences perpetrated by Chinese-flagged or owned longliners (2015-2019)



3.2.3. Squid jiggers

The most common type of IUU fishing incident conducted by squid jiggers was fishing in prohibited areas (46% of the total individual offences). This was followed by fishing without authorisation (17% of individual offences) and fleeing/refusal to cooperate (10%). Some other noted offences by the fleet were unauthorised trans-shipment (9%) and shark finning (6%).

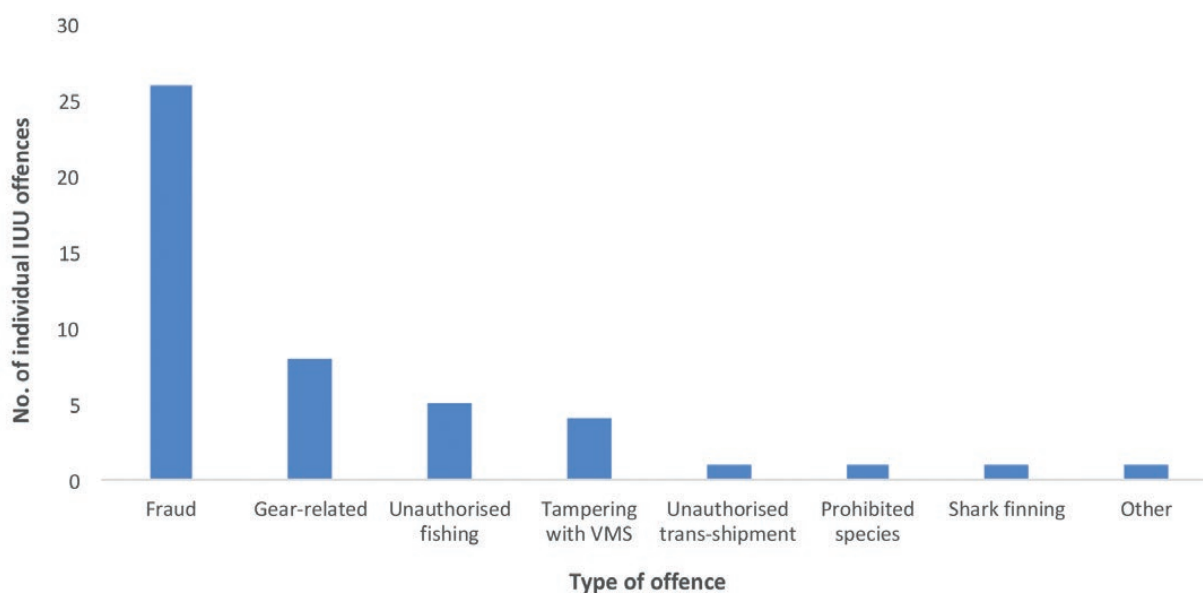
Figure 11: Types of IUU fishing offences perpetrated by Chinese-flagged or owned squid jigging vessels (2015-2019)



3.2.4. Purse seiners

The most common type of IUU fishing incident conducted by purse seiners was fraudulent activity (representing 55% of individual offences), followed by gear-related offences (18% of individual offences) and unauthorised fishing (11% of individual offences).

Figure 12: Types of IUU fishing offences perpetrated by Chinese-flagged or owned purse seine vessels (2015-2019)



3.3. Nature of human rights abuses by CDWF

Human rights abuses have plagued global fisheries for decades, with vulnerable crewmembers exposed to a litany of abuses ranging from insufficient food and drink, to physical and verbal abuse, human trafficking, and, in extreme cases, murder.¹⁵¹ As an industry, it represents the perfect storm for such crimes, given its high reliance on migrant labour, the geographically remote nature of its operations, the capacity of vessels to remain at sea for years at a time, and the lack of sufficient global and national frameworks and institutions to identify and prevent them occurring.

As the CDWF comes under more scrutiny, the systemic nature of human rights abuses on board its vessels is becoming apparent. Given the extent of its distant water operations and the high-instances of IUU fishing amongst this fleet, this is maybe unsurprising – considering the inherently intertwined nature of IUU fishing and human rights abuses.¹⁵² This was exemplified in May 2021, when

the US Customs and Border Protection (CBP) agency banned all imports from Chinese firm Dalian Ocean Fishing Co., Ltd. due to indications that human rights abuses, particularly of migrant Indonesian workers, was occurring on board their vessels.¹⁵³ **Case Study 4** details the infamous case of the Dalian Ocean Fishing Co., Ltd. owned fishing vessel LONG XING 629 – four of whom's original crew died.

Interviews conducted by EJJ with Indonesian crew who had worked for the CDWF between September 2020 and August 2021 uncovered a shockingly high frequency of human right abuses. 116 crew from 88 vessels were interviewed, reporting a range of offences: physical abuse, intimidation and threats, wage withholding and deductions, debt bondage, abusive working and living conditions, and excessive working overtime.¹⁵⁴ **Table 7** presents the proportion of interviewees who had experienced each of the above.



Captain and crew onboard a Chinese trawler in Tema, Ghana. © EJF

Whilst a smaller sample set, findings from EJF's investigation in Ghana found that Ghanaian crew on CDWF vessels faced similar infringements on their human rights. All 10 crew interviewed had either personally experienced or witnessed physical abuse, were forced to live in squalid conditions and eat food with very little nutritional value, and consume barely potable water resulting in sickness.¹⁵⁵

Table 7: Human rights abuses experienced by Indonesian crew working on CDWF vessels between September 2020 and August 2021

Human rights abuse	Number of crew	Percentage of total crew interviewed
Withheld wages and deductions	115	99.1%
Debt bondage and guarantee money, and documents confiscation	112	96.6%
Excessive overtime	103	88.8%
Abusive working and living conditions	99	85.3%
Intimidation and threats	81	69.8%
Physical abuse	67	57.8%

Source: EJF investigations

Due to a broader deficit of data available to quantify instances and types of human rights abuses in a similar fashion, as done with IUU fishing incidents previously, this section of the report will instead present some high-profile instances where egregious human rights abuses have been documented on board Chinese owned fishing vessels.

Case Study 4: Human rights abuses exposed on the Long Xing 629¹⁵⁶

The case of the LONG XING 629 – a Chinese vessel operating in the Western Pacific – garnered extensive attention from civil society, national governments and mainstream media. Four of the vessel's original crew members, all of Indonesian origin, passed away between December 2019 and March 2020 after suffering symptoms including swelling and chest pain. The tragedy was a prolonged one, with one of the crew dying on board the LONG XING 629, two after having been transferred to sister vessels, and one on arrival at Busan, Korea. It is alleged that despite requesting medical care for months, the captain refused to return to port in order to access appropriate care.¹⁵⁷

The appalling response of the captain to the poor health of his crew, and their untimely deaths, drew attention to the living and working conditions on board the vessel. Investigations by EJF and other civil society organisations uncovered a plethora of dreadful alleged human rights abuses. These included average working days of 18 hours, one toilet shared between 22 of the Indonesian crew, confiscation of passports, deduction of wages, being forced to eat fish that was otherwise used as bait and drink poorly treated salt water, as well as instances of physical assault by the Chinese crew. These abuses were facilitated by a number of trans-shipments at sea, which meant the crew were kept at sea for 13 months.

Further investigation by EJF into the operations of this vessel evidenced the interlinkages between human rights abuses and IUU fishing on the vessel.¹⁵⁸ The illegal finning of sharks stands out as the vessel's predominant form of IUU fishing, which was also found to be prevalent on 11 sister vessels, indicating a systemic problem in the fleet. A wide-variety of shark species were caught, some of which are endangered, including Scalloped Hammerhead Sharks, Shortfin Mako Sharks and White Sharks.



Whale killing on a Chinese industrial fishing vessel. © EJF

It is commonplace for the CDWF to employ migrant workers from poorer neighbouring countries in South-East Asia including Indonesia and the Philippines. The countless and heart-wrenching accounts of the abuse of such migrant workers aboard Chinese vessels vividly depicts the severity of the issue. For example, two Indonesian crew working on a vessel reportedly named LU QING YUAN YU 901 jumped overboard as they were unable to stand the treatment and forced labour occurring on the ship, but were fortunately rescued by other fishers.¹⁵⁹ Elsewhere, a Greenpeace report from 2019 talks extensively about the abuse of Indonesian crew – including one who was forced to drink water from an airconditioning unit and was subject to physical abuse on board the Chinese vessel HAN RONG 355.¹⁶⁰ Most recently, in 2021 an Indonesian crew member tragically lost his life trying to escape a Chinese-owned vessel upon which egregious human rights abuses and IUU fishing were reported (see **Case Study 5**).

Mistreatment on board Chinese vessels is not confined to migrant workers per se. EJJF has also identified human rights abuses of ‘local’ crews – i.e. nationals of a coastal state where Chinese vessels are operating. Such abuses have been identified in Ghana, where national fisheries laws dictate that 75% of crew must be Ghanaian nationals. In a recent report, EJJF uncovered shocking human rights violations on board Chinese-owned trawlers operating in Ghanaian waters. In all interviews conducted, crew members stated that they had either witnessed or been a victim of physical abuse, and were subjected to deplorable living conditions as well as poor quality food and drink, and were working without written contracts.¹⁶¹



Chinese trawlers at port in Dakar, Senegal. © EJJF

Case Study 5: Routine abuse of migrant workers aboard the Liao Dong Yu fleet in the Indian Ocean

Since September 2020, a fleet of Chinese flagged fishing vessels and a fish carrier vessel (including the LIAO DONG YU 535, 571, 572, 575 and 577) were observed to be operating in the waters of Somalia. In June 2021, reports made to the fisher's welfare organisation 'Destructive Fishing Watch' alerted them that the 13 Indonesian crewmembers working on the vessel had been stranded in Somalia since January 2021. Despite their contracts having finished in December 2020, the crew were reportedly forced to continue working and vessel operators refused to repatriate them.

As more information began to emerge, an increasingly grim picture was painted of the tragedies that befell migrant workers on the vessels. In June 2021, one fisher was killed and one presumed killed after a large wave hit the vessel, forcing open a heavy trawl door – killing one fisher on impact and throwing another to sea. A further crew member lost his life in August 2021, as one of four fishers attempting to flee the vessel for shore. Whilst three were found and brought back onto the vessel, one who could not swim was lost at sea. Crew were eventually repatriated with the assistance of a range of local and international NGOs, including EJF.

The conditions on board the vessels provide some context as to why some crew find themselves willing to risk their life to reach shore. Reports from those on board indicate that they were subject to physical abuse when they asked for information about repatriation, and should they refuse to work, they would be denied breakfast for days as punishment. Some of the crew fell ill, reporting symptoms similar to those exhibited by those suffering from beriberi disease or thiamine deficiency – with symptoms including difficulty breathing and swollen legs, leaving some struggling to walk. Injury and sickness on the vessels was unsurprising, given that crew were not provided sufficient safety equipment, were forced to drink unfiltered tap water and, if not willing to pay for vegetables, had to subsist on a diet of porridge and anchovies.



Evidence of poor living conditions on a Chinese squid vessel. © EJF

As with the case of the LONG XING 629, a series of suspected IUU fishing offences were documented and reported by crew working on board the fleet including: fishing without a valid licence, fishing using prohibited gear, fishing in a restricted zone, fishing for protected or endangered species, and conducting operations in breach of the terms and conditions of the flag state's authority.

Species caught on board the vessels included sharks, turtles and dolphins. Sharks were often finned – a widely illegal and deeply inhumane process in which sharks have their fins cut off and then are often thrown back into the sea – a prolonged and painful death. Vulnerable species such as leatherback turtles were also documented on board, as well as the rare megamouth shark.

Section 4 – Identity of main offenders

4.1. Overview

Many IUU fishing offenders have complex and opaque identities and relationships with business partners. Of the 554 IUU fishing incidents analysed, 82 were conducted by fully or partially state owned entities, accounting for around 15% of incidents analysed. However, some Chinese DWF companies set up joint ventures overseas which participated in IUU fishing offences and could not be accounted for.¹⁶²

Among the enterprise groups committing IUU fishing infringements, about 45% of them have a small fleet of under 20 vessels, while the other 45% are the ones with a certain commercial scale with a fleet of between 24-59 vessels. Only two enterprises have a large fleet of over 100 vessels (**Table 8**).

Vessels from each province have different likelihoods of committing IUU fishing offences. In fact, Liaoning only has the fourth highest vessel number among all provinces, however, proportionally its registered vessels have the highest likelihood of committing IUU fishing offences. This high ratio of offences to vessel numbers is also seen in Shandong, Zhejiang, and Fujian provinces, in decreasing order. However, our analysis could not take into account the “ghost vessels” fishing without a port of registry or using stolen identities.

Vessels from the same company tend to commit similar types of IUU fishing offences. This could be related to the operational strategy of a company or the collective decisions made by the captains on site. For instance, five vessels from the company, Yantai Beijing Deep-Ocean Fishery, colluded with one another and fled from the inspection request of the Argentine authorities in 2018. Subsequently, all five vessels were reported under an INTERPOL purple notice upon the request from the Argentine authorities.¹⁶³



Chinese industrial vessel in Montevideo, Uruguay. © EJF

Table 8: The top 20 enterprise groups with the highest recorded IUU fishing offences between 2015 and 2019

	Conglomerate or company	IUU fishing offences 2015-2019	Company vessel	State-owned
1	Pingtian Marine Enterprise (including Honglong)	25	188	N
2	China Wanxiang Holdings Co Ltd / Wanxiang Sannong Group Co., Ltd	22	45	Y (partial interest)
3	Fuzhou Dongxinlong Ocean Fishing Co., Ltd. ¹⁶⁴	15	2	N
4	Dalian Jinmu Investment Co., Ltd.	13	37	N
5	Shandong Zhonglu Oceanic	13	24	Y
6	Qingdao Rongchang Ocean Fishery Co Ltd	12	10	N
7	China Agricultural Development Group Co., Ltd.	12	429	Y
8	Shandong State-owned Assets Investment Holding Co., Ltd.	11	10	Y
9	Dalian Lian Run Pelagic	10	24	N
10	Fujian Anfeng Ocean Fishery Co., Ltd.	10	10	N
11	Shandong Bodelong Group Co., Ltd.	10	28	N
12	Zhoushan Jiade International Fisheries Co Ltd	8	18	N
13	Changhai County Zhangzidao YiFeng Aquatic Product Co., Ltd.	7	18	N
14	Dalian Meng Xin	7	31	N
15	Zhongguan Marine	6	26	N
16	Beijing Fisheries Co. Ltd	6	15	Y
17	Qingdao Changhai Ocean Fishing Co Ltd	6	6	N
18	Zhoushan Huali Ocean Fisheries ¹⁶⁵	6	1	N
19	Ningbo Wanhong Aquatic Products Co., Ltd.	5	26	N
20	Zhoushan National Pelagic Fishery Base Construction Development Group Co., Ltd.	5	59	Y

Source: Coastal state governments, EJF findings, MARA IUU fishing notices, media/NGO reports, Spyglass

4.2. Identity of main offenders: By gear

4.2.1. Trawlers

The top five CDWF companies involved in IUU fishing incidents involving trawl vessels are set out in **Table 9**. These Chinese vessels were mostly registered in Shandong or Liaoning province. The IUU fishing cases from trawling vessels overwhelmingly occurred on the coast of West Africa. In early 2021, EJJF had already published a comprehensive and detailed report on the Chinese-owned trawlers operating in West Africa.¹⁶⁶ In this section, we further dive into the identity of the major Chinese companies conducting IUU fishing infringements.

Two Shandong companies and one Liaoning company were all charged with illegally discarding fish at sea. Shandong Ocean Fishery Development Corporation, which was associated with at least ten incidents during the period 2015-2019, is majority owned by the Chinese government.¹⁶⁷ Several of the company's vessels in Ghana have been sanctioned for illegal activities that took place between 2017 and 2019. The main offences – dumping fish, illegal trans-shipment and fishing in the IEZ – were carried out by only five vessels, each one with multiple offences. Although this company is relatively small with only 10 registered trawlers, it is a subsidiary of a large state-owned holding company, Shandong State-owned Assets Investment Holding, which is also the controlling shareholder of a leading DWF enterprise in Shandong, Shandong Zhonglu Oceanic Fisheries.¹⁶⁸ Shandong Ocean Fishery Development Corporation started to focus on the fishing ground off the coast of Morocco in 2019 – they now have at least six vessels operating at the location.^{169,170}

Rongcheng Marine Fishery belongs to the owners of Shandong Bodelong Group (49%) which is involved in the CDWF and real estate industry, and a fishery company called Rongcheng Derun Fishery (51%). Rongcheng Marine Fishery mainly fishes in Ghana and the Indian Ocean. There are 20 trawlers, 4 squid jigging vessels, 2 purse seiners, and 2 reefers registered under the company's name. The IUU fishing offences from Rongcheng Marine Fishery were illegal discarding fish at sea and fishing in the IEZ. Currently, Shandong Bodelong Group and the Rongcheng Derun Fishery are seeking further collaboration with Argentina, looking to increase the number of fishing vessels, expand the scale of investment, and develop onshore processing facilities in Argentina.¹⁷¹

Dalian Mengxin Ocean Fishery has had several IUU fishing offences recorded by EJJF and other NGOs in the past.^{172,173} The main offences include dumping juvenile fish, using prohibited gear, and illegal trans-shipment. MENG XIN 15, one of the MENG XIN's 31 trawling vessels, was involved in a case of a missing Ghanaian fishing observer on board.¹⁷⁴ The company's active fishing grounds are Ghana and Sierra Leone. Dalian Mengxin is equally owned by two shareholders: Dou Yongmeng and Lin Huimei. Yongmeng is also the supervisor and part-shareholder of Dalian Mengyuan Trading Co along with Dou Wei. Until at least 2019, Dalian Mengxin still actively shipped squid and cuttlefish from Tema, Ghana, to China.¹⁷⁵ Moreover, there is a business relationship between Dalian Mengxin and Dalian Kaiyang World Seafood Co., Ltd.,¹⁷⁶ which is the largest seafood distributor in Dalian. There was also a separate but identically named entity (Dalian Mengxin Ocean Fishery) in Hong Kong, which was established in 2017 and dissolved in 2019. This entity was previously named Meredith Seafood Trading and Shipping.¹⁷⁷

Two other Liaoning companies were involved in fraudulent cases and other types of IUU fishing infringements. Zhangzidao in Dalian, Liaoning, is a fishing village with a long history in the seafood industry and is the home port for several DWF companies registered in Liaoning. Dalian Ruitaifeng Pelagic Fishery and the RUITAIFENG fleet (formerly named Dalian Lianrun until 2019), has 30 trawler vessels which fish mostly in West Africa in countries such as Ghana and Guinea. Between 2015-2019, the company's LIAN RUN fleet had several accounts of IUU fishing activities including using illegal gear and mesh sizes, shark finning, and under-reported gross tonnage, etc. Before 2015, the LIAN RUN fleet already had a history of gross tonnage and identity fraud.¹⁷⁸

The IUU fishing offences from Changhai County Zhangzidao Yifeng Aquatic Product were fishing without authorisation, and tampering with vessel position and markings. The company has 18 trawlers and has been fishing in the waters of Guinea-Bissau and Senegal. MARA ordered the Liaoning government to sanction the four vessels which tampered with the positioning system – the vessels' fishing projects were to be cancelled and the manager and captains of the vessels were to be blacklisted.¹⁷⁹

Table 9: Top five Chinese DWF corporations involved in IUU fishing incidents by trawl vessels (2015-2019)

Company	Province	State-owned	No. of IUU fishing incidents	Location of IUU fishing incidents
Shandong Ocean Fishery Development Corporation	Shandong	Yes	10	Ghana
Rongcheng Marine Fishery Co. Ltd	Shandong	No	10	Ghana
Dalian Lianrun Pelagic Fishery Co. Ltd	Liaoning	No	9	Ghana, Guinea
Dalian Mengxin Ocean Fishery Ltd	Liaoning	No	7	Ghana, Sierra Leone
Changhai County Zhangzidao YiFeng Aquatic Product Co., Ltd.	Liaoning	No	6	Gambia, Guinea-Bissau

Source: Coastal state governments, EJF findings, MARA IUU fishing notices, media/NGO reports, Spyglass

4.2.2. Longliners

The top ten CDWF companies involved in IUU fishing incidents involving longline vessels are set out in **Table 10** along with examples of the incidents concerned. Three out of the 10 companies were listed on the Chinese or foreign stock market, one has made several attempts on the listing, with another one currently in the process of application. This probably underlines that the operation of tuna longline vessels is a capital-concentrated business.

Zhejiang province had the highest number of IUU fishing incidents conducted by its longliner fleet. The China Wanxiang Holdings (Wanxiang Sannong) is the organisational group responsible for at least two DWF companies that collectively are associated with at least 21 incidents on board 14 vessels during the period 2015-2019. Offences by the two companies occurred on the high seas, the jurisdiction of WCPFC, and the EEZs of Somalia and Tanzania. The offences include fleeing from authorities' inspection, non-compliance (e.g., failed to provide trans-shipment records to RFMOs), fishing without a licence, shark finning, and targeting cetaceans. Among them, half of the vessels conducted multiple offences in different time periods. As China switches focus to the Pacific Islands, a secret deal between the governments of China and Kiribati has ensured the Chinese fishing companies like Zhejiang Ocean Family have an edge in tuna fishing in Kiribati's EEZ.¹⁸⁰

Shandong Zhonglu Fishery's main type of offence is also fleeing from authorities' inspection. These cases mostly occurred during the Sea Shepherd's and Tanzanian authorities' joint mission in 2018. Afterwards, in the following fishing project approval list for 2019-2020, the company applied for fishing projects further into the Indian Ocean.

Dalian Ocean Fishing has the second most frequent IUU fishing incidents among longliners. Shark finning and targeting cetaceans are the main IUU fishing offences which occurred on the high seas in the Indian Ocean and the Pacific Islands. Moreover, several of the company's vessels, especially the notorious LONG XING 629, were involved in severe human rights abuse cases. Consequently, the US government has banned Dalian Ocean Fishing from exporting seafood products to the US market since June 2021 under forced labour violations.¹⁸¹

The IUU fishing cases which Pingtan Marine Enterprise is associated with were shark finning and transport. Four longliner vessels belonging to the enterprise's subsidiaries and associates were involved in the Galapagos shark poaching and transporting case. Moreover, just a few months after the seizure in August 2017, two of these vessels FU YUAN YU 7865 and FU YUAN YU 7866¹⁸² were approved for government subsidies for vessel replacement and renovation in November.¹⁸³



Frozen tuna being unloaded at port in Montevideo, Uruguay. © EJF

Table 10: Top Chinese DWF corporations (groups) involved in IUU fishing incidents by longline vessels (2015-2019)

Company	Group	Province	State-owned	No. of IUU fishing incidents	Location of IUU fishing incidents
Zhejiang Ocean Family Co., Ltd.	China Wanxiang Holdings Co Ltd/ Wanxiang Sannong Group Co., Ltd	Zhejiang	Not known	15	WCPFC (40%), High seas (26.7%), Tanzania (26.7%), Somalia (6.7%)
Zhejiang Ocean Fisheries Group Co Ltd/ Zhoushan Pacific Tuna Pelagic Fishery Co., Ltd.				6	WCPFC (100%)
Dalian Ocean Fishing Co., Ltd.	Dalian Jinmu Investment Co., Ltd.	Liaoning	No	13	Not reported (92.3%), Benin (7.7%)
Shandong Zhonglu Oceanic	Shandong Zhonglu Oceanic	Shandong	Yes	10	Tanzania (88.9%), High seas (11.1%)
Fujian Pingtan County Ocean Fishing Group Co., Ltd.	Pingtan Marine Enterprise	Fujian	No	4	High seas (50%), Galapagos Islands (Ecuador, 50%)
Fuzhou Honglong Ocean Fishing Company Ltd.				4	Galapagos Islands (Ecuador, 50%), High seas (25%), WCPFC (25%)
Qingdao Changhai Ocean Fishing Co., Ltd.	Qingdao Changhai Ocean Fishing Co Ltd	Shandong	No	6	Somalia (100%)

Source: Coastal state governments, EJF findings, MARA IUU fishing notices, media/NGO reports, Spyglass

4.2.3. Squid jiggers

The top eight CDWF companies involved in IUU fishing incidents with squid jigger vessels are set out in **Table 11** along with examples of the incidents concerned. All the vessels from Zhoushan belong to the same squid fishing cooperation. Almost half of the IUU fishing cases from squid jigging vessels are unauthorised entry into a country's EEZ, specifically into the Argentinian EEZ. In comparison to the high occurrence of shark finning by longliners, trawlers, and purse seiners, only 7% of the squid jiggers were involved in shark finning and transport. This underlines the correlations between types of vessel and the types of IUU fishing infringements.

The Zhejiang provincial government fined vessels entering the Argentinian EEZ during the 2016 spring fishing season. These sanctions were the official response to a severe IUU fishing confrontation that took place earlier in March 2016, when the Argentinian coast guard sank a Chinese fishing vessel, LU YAN YUAN YU 010, after sending several warnings ordering it to stop fishing inside the Argentinian EEZ.¹⁸⁴ This high-profile case subsequently pressed the Chinese government to sanction other vessels entering the Argentinian EEZ during that period of time. This was the first but also the only time that the provincial government published the sanction results after receiving the instructions from MARA. Captains were fined US\$ 1,560 if they entered the EEZ once or twice, and US\$ 3,125 if they entered the EEZ more than twice. The number of times these vessels entered Argentinian EEZ ranged from once to 19 times, with a median of three times.

Table 11: Top Chinese DWF corporations involved in IUU fishing incidents by squid jigging vessels (2015-2019)

Company	Group	Province	State-owned	No. of IUU fishing incidents	Location of IUU fishing incidents
Zhoushan Jiade International Fisheries Co Ltd	Zhoushan Jiade International Fisheries Co Ltd	Zhejiang	No	8	Argentina
Yantai Beijing Deep-Ocean Fishery Company	Beijing Fisheries Co. Ltd	Beijing	Yes	6	Argentina
Zhoushan Huali Ocean Fisheries	Not known	Zhejiang	Not known	6	Argentina, Indonesia
Zhoushan Mingxiang Marine Fishery Co., Ltd.	Ningbo Wanhong Aquatic Products Co., Ltd.	Zhejiang	No	5	Argentina, SPRFMO
China Aquatic Products Zhoushan Marine Fisheries Corp	China Agricultural Development Group Co., Ltd.	Zhejiang	Yes	4	Argentina
Zhoushan Putuo Deep-Sea Fishery Corp	Zhoushan National Pelagic Fishery Base Construction Development Group Co., Ltd.	Zhejiang	Yes	4	SPRFMO
Zhoushan Run Da Ocean Fisheries Co Ltd	Not known	Zhejiang	No	4	Argentina
Zhoushan Shunhang Ocean Fisheries Co Ltd	Not known	Zhejiang	No	4	Argentina

Source: Coastal state governments, EJF findings, MARA IUU fishing notices, media and NGO reports, Spyglass

4.2.4. Purse seiners

The top eight CDWF companies involved in IUU fishing incidents involving purse seine vessels are set out in **Table 11** along with examples of the incidents concerned. The Qingdao Rongchang Ocean Fishery Co., Ltd tops this list, associated with at least 11 incidents during the period 2015-2019. A privately owned corporation, it is reported to have undertaken IUU fishing in South Africa, with other locations not reported. Their main offence – changing the fishing method from purse seine to trawling – was confirmed to be true according to MARA's initial investigation.¹⁸⁵ However, MARA's final decision was not to further pursue the sanctioning due to insufficient evidence on the company's second charge – smuggling 3,000 tonnes of illegally caught fish back to China.¹⁸⁶

Fuzhou Dongxinlong Ocean Fishing and Fujian Zhengguan Fishery Development, the second and third on the IUU fishing offences ranking for purse seiners, are connected through illegal activities and transferring of vessels. Eight vessels from Fuzhou Dongxinlong Ocean Fishing and six vessels from Fujian Zhengguan Fishery Development were collectively investigated by MARA for their involvement in several fraud cases including forging vessel tonnage information, illegally changing fishing gear, tampering with AIS, etc.¹⁸⁷ Moreover, Fuzhou Dongxinlong subsequently sold six of their vessels to Fujian Zhengguan after the qualification of the former company was suspended by MARA. These six vessels were involved in illegal fishing using prohibited drift nets in the north of the Indian Ocean.¹⁸⁸

Table 12: Top Chinese DWF corporations involved in IUU fishing incidents by purse seine vessels (2015-2019)

Company	Group	Province	State-owned	No. of IUU fishing incidents	Location of IUU fishing incidents
Qingdao Rongchang Ocean Fishery Co., Ltd.	Qingdao Rongchang Ocean Fishery Co., Ltd.	Zhejiang	No	11	South Africa, not reported
Fuzhou Dongxinlong Ocean Fishing Co., Ltd.	Not known	Fujian	No	7	Not reported
Fujian Zhengguan Fishery Development Co., Ltd.	Zhongguan Marine	Fujian	No	6	Not reported

Source: Coastal state governments, EJF findings, MARA IUU fishing notices, media/NGO reports, Spyglass

Conclusions

The rapid growth of the CDWF over the past three decades has unquestionably put additional pressure on marine ecosystems and all of those who rely on them. Whilst there are numerous nations and actors who have, either currently or historically, contributed significantly to the observed decline of many fish populations – the size of the CDWF, and of China as a market state, warrants attention. The need for this scrutiny is made more urgent by the high instances of IUU fishing amongst the Chinese fleet, as well as its presence in vulnerable coastal regions where fish populations are reportedly close to collapse.

This report has provided a timely addition to existing literature that has sought to map the size, scale and behaviours of the CDWF, particularly through its analysis of novel data sources, and analysis not only at fleet level, but also by gear type. The onus now sits with the

Government of the People's Republic of China, and its international partners, to address the often unsustainable manner in which the CDWF operates. This will prevent the continued abuse of basic human rights, and safeguard the livelihoods and food security of the communities that are dependent on the ocean. Whilst this may initially be associated with some costs, ultimately, no-one benefits from depleted fish populations, and addressing the existential threats to many ocean ecosystems will bring with it financial benefits.

Below we make a series of recommendations to both the Government of the People's Republic of China and other relevant states. Implementing these will increase transparency around the operations of the CDWF, and allow authorities to hold those responsible for IUU fishing and human rights abuses to account.



Frozen tuna being unloaded at port in Montevideo, Uruguay. © EJF

Recommendations

To the Government of the People's Republic of China

Alignment with best practises and cooperation with international partners

- Ensure the information on Chinese DWF vessels uploaded to the FAO Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels by China is comprehensive and up to date.
- Cooperate with the relevant foreign governments to clarify Chinese 'hidden' ownership in their fishing sectors so as to enforce the relevant legal instruments.
- Mandate International Maritime Organisation (IMO) numbers as a prerequisite for approval of fishing vessels to operate overseas (or equivalent Unique Vessel Identifiers (UVI) where the vessel is not eligible under the IMO Ship Identification Number Scheme).
- Ratify and implement the International Labour Organisation (ILO) Work in Fishing Convention C188 to address issues around labour abuses. Further protections for workers on board vessels could include the creation of a specific offence for the use of forced or bonded labour by operators and the requirement of mandatory crew lists for DWF vessels. In addition, ratification and implementation of the 2012 Cape Town Agreement on Fishing Vessel Safety and of the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995 is recommended.

Sanctions

- Update the national law framework, if necessary, to ensure that Chinese nationals or any natural or legal persons subject to China's jurisdiction, who are responsible for, benefiting from, supporting or engaging in IUU fishing activities by fishing vessels flying the flag of foreign countries (e.g. as operators, effective beneficiaries, owners, logistics and service providers, including insurance providers and other financial service providers) can be prosecuted and subject to deterrent sanctions.

- Ensure that government support in the form of subsidies, loans and other funds are not available to companies with a history of IUU fishing infringements, in the context of eliminating harmful subsidies.
- Establish a clearer protocol and chain of responsibility for the investigation of IUU fishing offences, which should involve the local prefectural fishery law enforcement in order to increase efficiency.
- Continue to update and publish information about fisheries-related offences and sanctions by distant-water fishing vessels to ensure the information published is comprehensive, credible and accessible.

Sustainability and transparency

- Establish clear guiding principles and requirements for fishing agreements (both those involving the Chinese state and private companies) to ensure DWF operations are transparent, legal and sustainable. Some examples of pre-existing principles which would be applicable and beneficial are the EJF '10 Principles for Global Transparency', and the '10 Priorities for the Future of Sustainable Fisheries Partnership Agreements' devised by NGOs, Birdlife, The Coalition for Fair Fisheries Agreement (CFFA) and WWF and their African partners.¹⁸⁹
- Establish a cap on the capacity of the CDWF, in the form of overall engine power and gross tonnage for specified gear types – as opposed to the current cap that exists on the number of vessels.
- Reform the system for reviewing and approving offshore fishery projects to include specific criteria to effectively address abusive reflagging by the CDWF, including: a requirement for operators to provide information on vessel activities conducted under the flags of third countries (data on catches, fishing effort, IUU fishing infringements) and for MARA to conduct detailed verifications of vessel activities conducted under flags with known compliance issues.
- Mandate the publication of information on approved DWF projects, including the period of projects and vessel details (e.g., name, beneficial owner, flag, UVI, gear type, tonnage, allocated fishing opportunities, and beneficial owner). Information should be available in a publicly accessible and searchable database.



Montevideo port, Uruguay. © EJF

- Improve catch data reporting to the FAO, ensuring that information on species and fishing areas of the CDWF is reported in a comprehensive way, irrespective of the final market destination of the products.
- Clarify the responsibilities for vessel monitoring and ensure routine, proactive monitoring of VMS data and follow up on suspected infringements.
- Require mandatory AIS to significantly improve transparency and coverage of fleet activities.
- Rapidly phase out all subsidies to the CDWF ensuring a complete cessation of harmful subsidies no later than December 2023.

To states that act as local flags of the CDWF

- Require from all registered vessels, and as part of all applications for entering the fleet register, details on ownership arrangements and records on the destination of profits from fishing activities. Unless there can be a clear assurance that a vessel's beneficial owner can be identified and held to account if needed, the state should remove the vessel from their registry or refuse registration.
- Carry out background checks on any person or company forming a new, or taking over an existing, corporate entity and ensure that the state is immediately notified of any proposed change to existing ownership arrangements.
- Ensure that agencies responsible for flagging vessels and fisheries management work in close cooperation and that fisheries managers have substantive input on decisions on whether or not to flag a fishing vessel.
- Ensure that fisheries authorities and ship registration authorities from the former, other relevant states – including China – and the applicant flag state cooperate and exchange vessel information before it is granted entrance into the fleet. Refrain from issuing deletion certificates to vessels which have failed to settle all fines and liabilities. Applicant flag states should refuse applications of such vessels.
- Scrutinise vessels with a history of flag-hopping to combat abusive reflagging.
- Publish online lists of vessels registered to their flag and make the relevant information available through the FAO Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels, mandating IMO numbers for all eligible vessels and national unique vessel identifiers for all other vessels.
- Ensure all suspected fisheries infringements by foreign-owned vessels, including those of the CDWF flying the local flag, are subject to thorough investigation, and that deterrent sanctions are imposed where violations are confirmed, in accordance with minimum sanctions in the national law and regardless of whether cases are settled in or out of court.

To coastal states

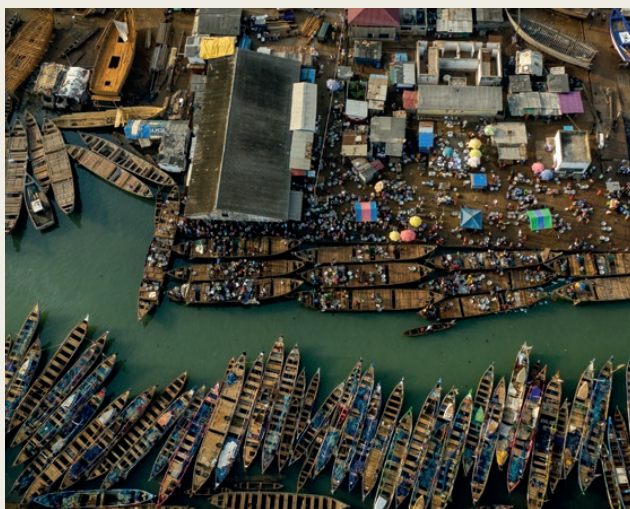
- Ensure all suspected fisheries infringements by vessels of the CDWF are subject to thorough investigation, and that deterrent sanctions are imposed where violations are confirmed, in accordance with minimum sanctions in the national law and regardless of whether cases are settled in or out of court.
- Ensure that the number of fishing licences issued, including to the CDWF, is sustainable in line with best available scientific advice and MCS capacity.
- Ensure through legislation, monitoring, and enforcement, that IEZs strictly prohibit any and all industrial activities, and, where necessary, expand them to accurately represent the fishing grounds of small scale fishers, accounting for the fact that this will continue to evolve in the face of climate change and depleted fish populations.
- Phase out the use of industrial bottom trawling gear given its widely-acknowledged negative ecological impacts in inshore areas, so as to preserve vital ecosystems and the biodiversity that inhabits them.
- Adopt minimum transparency requirements for vessels operating within their EEZ, including the publication of complete, updated and accessible information on authorisations and beneficial ownership, and requiring all eligible vessels granted access to coastal waters have an IMO number.
- Conduct thorough background checks on vessels requesting to fish in coastal waters, to ensure that vessels whose beneficial owners are linked to IUU fishing are refused authorisation.
- Publish up-to-date information concerning fisheries offences and sanctions by DWF vessels ensuring that the information published is comprehensive, credible and accessible.
- Where relevant, clarify the role and responsibilities of nationals acting as local representatives for foreign entities in order to allow them access to EEZs, if necessary developing regulatory instruments.
- Support progress in relation to regional cooperation and information-sharing on fishing activities through the relevant regional fishery bodies as well as with the pertinent national authorities and international bodies.
- Undertake extensive studies of coastal livelihoods to develop a nuanced understanding of the multiple and interacting vulnerabilities that communities are facing with a view to reduce precarity and devise alternative livelihood options where necessary. Ensure that such studies are conducted in a truly participatory manner, making every effort to be inclusive of marginalised groups within communities, including women and the elderly.
- Develop mechanisms through which crew members and fisheries observers who are employed on DWF vessels can safely and anonymously provide information on IUU fishing and human rights abuses that occur on board vessels. This mechanism should take steps to tackle the incentives and drivers of corruption and failure to report such infractions, including bribery, physical and verbal abuse of crew and observers, and the withholding of wages.

Small-scale fishing community, Ghana. © EJF



To port states

- Ratify and effectively implement the FAO Agreement on Port State Measures, and, similarly and where relevant, effectively implement conservation and management measures on port state measures adopted by RFMOs.
- In particular, and in determining which vessels to inspect, increase scrutiny of companies identified in this report as having possibly been associated with IUU fishing activities and/or human rights abuses.
- When sufficient proof that a CDWF vessel seeking entry into a port has engaged in IUU fishing or related offences and/or a port state has reasonable grounds to believe that the vessel seeking entry has engaged in such activities, port states should deny that vessel port entry or allow entry exclusively for the purpose of inspecting it and taking other appropriate actions in preventing, deterring and eliminating IUU fishing and related offences in support of such fishing.
- Should such a vessel be found in a port, deny it the use of the port for landing, trans-shipping, packaging, and processing of fish and for other port services including, *inter alia*, refuelling and resupplying, maintenance and drydocking.
- Notwithstanding the above, a port state shall not deny a vessel the entry to port for reasons of force majeure or for the purpose of rendering assistance to persons in danger or distress. Similarly, a port state shall not deny a vessel the use of port services essential to the safety and health of the crew, provided these needs are duly proven.



Aerial view of saiko canoes landing fish at Elmina port, Ghana. © EJF

To key market states

- Adopt import control mechanisms or, where they exist, reinforce them and strive to align them to remove loopholes, provide clarity, and enable information exchange, legal trade facilitation and interoperability.^{190,191}
- Increase scrutiny over imports of fisheries products originating from vessels suspected of IUU fishing or human rights abuses through standardised checks, verifications and inspection procedures in accordance with risk criteria.
- In this context, verifications should be focused in priority towards fisheries products stemming from vessels and companies identified in this report as having possibly been associated with IUU fishing activities, human rights abuses, or both.
- When there is documented evidence of non-compliance with applicable laws and management measures, close their markets to the products in question, and notify the flag state as well as, where appropriate, other relevant countries than the flag state.
- Improve routine and timely information sharing, including on rejected consignments, which can allow authorities to prevent trade diversion and restrict market access to unscrupulous actors, with an emphasis on beneficial owners.
- Increase coordination of bilateral cooperation mechanisms, trade-based measures and on global fisheries transparency policies, including in RFMOs, so as to leverage market power to push China to achieve the necessary reforms of its fisheries governance framework through import requirements.
- In this context, align approaches to addressing IUU fishing and human rights abuses in the CDWF including taking actions that pressure China to make public, *inter alia*, China's blacklist of IUU fishing offenders, and the list of authorised CDWF and of the country's fisheries agreements.
- Provide support to coastal states with a high presence of the CDWF to increase their capacity to fight IUU fishing and bring about fundamental reforms of their fisheries policies.

Appendix 1: Offshore fishery projects covering specific EEZs for which information was published and could be retrieved in 2019 and 2020

EEZ	Continent	Percentage of the total number of vessels covered by projects related to specific EEZs
Mauritania	Africa	29.9%
Myanmar	Asia	9.3%
Guinea-Bissau	Africa	8.6%
Senegal	Africa	6.7%
Morocco	Africa	5.8%
Guinea	Africa	5.3%
Sierra Leone	Africa	4.1%
Madagascar	Africa	3.1%
Malaysia	Asia	3.1%
Iran	Asia	3.0%
Gabon	Africa	2.6%
Mozambique	Africa	2.6%
Argentina	South America	1.6%
Ghana	Africa	1.6%
India	Asia	1.5%
Kenya	Africa	1.5%
Pakistan	Asia	1.5%
Somalia (Puntland)	Africa	1.5%
Angola	Africa	1.2%
Oman	Asia	1.2%
The Gambia	Africa	1.2%
Côte d'Ivoire	Africa	1.0%
Liberia	Africa	0.7%
Cameroon	Africa	0.4%
Tanzania	Africa	0.2%
Uruguay	South America	0.2%
Congo (Rep)	Africa	0.1%
Russia	Asia	0.1%
South Africa	Africa	0.1%

Appendix 2: Alleged incursions by industrial trawlers into the Ghanaian IEZ (2018-2021)¹⁹²

Year	Vessel	Status	Date of occurrence	Source	Outcome
2021	LONG XIANG 609	Suspected	1-2.5.21	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2021	JIN HAI 606	Suspected	6.3.21	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2021	LU RONG YUAN YU 916	Suspected	6-7.3.21	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2021	LONG XIANG 609	Suspected	24.11.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2021	LONG XIANG 602	Suspected	22-24.11.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2021	JIN HAI 605	Suspected	2-9.11.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2020	LU RONG YUAN YU 930	Suspected	30.8.20-3.9.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2020	LU RONG YUAN YU 917	Suspected	31.8.20-2.9.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2020	LONG XIANG 606	Suspected	1-8.8.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2020	LONG XIANG 606	Suspected	11-17.7.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2020	JIN HAI 605	Suspected	28-31.5.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2020	MENG XIN 14	Suspected	9-23.4.20 & 14-15.7.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2020	LONG XIANG 606	Suspected	April-July 2020	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2020	LONG XIANG 606	Suspected	24-26.3.20	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2018	LU RONG YUAN YU 920	Suspected	08.06.18	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.
2018	LONG XIANG 606	Suspected	14.12.18	AIS (EJF)	Reported to Fisheries Commission. Outcome not reported.

Endnotes

- 1 Examples of reports that discuss the scale and scope of the CDWF are: ODI. (2020). China's distant-water fishing fleet, scale, impact and governance. Available at: https://cdn.odi.org/media/documents/chinesedistantwaterfishing_web.pdf and STIMSON. (2019). Shining a light: the need for transparency across distant water fishing. Available at: <https://www.stimson.org/wp-content/files/file-attachments/Stimson%20Distant%20Water%20Fishing%20Report.pdf>.
- 2 See for example: Sea Shepherd. (2019). Sea Shepherd assists Liberian Coast Guard in arrest of cargo vessel on suspicion of identity fraud and IUU fishing. Available at: <https://www.seashepherdglobal.org/latest-news/sea-shepherd-assists-liberian-coast-guard-in-arrest/> and The Guardian. (2020). 'Hold on, brother': the final days of the doomed crew on the Long Xing 629. Available at: <https://www.theguardian.com/environment/2020/jul/07/hold-on-brother-final-days-of-doomed-crew-on-chinese-shark-finning-boat>
- 3 EJF. (2020). EJF's Charter for Transparency. Bringing the fisheries sector out of the shadows. How best to implement principles three and four of the Charter for Transparency. Available at: https://ejfoundation.org/resources/downloads/Report_Principles-three-four-final.pdf.
- 4 EJF. (2018). China's hidden fleet in West Africa: A spotlight on illegal practices within Ghana's industrial trawl sector. Available at: <https://ejfoundation.org/reports/chinas-hidden-fleet-in-west-africa-a-spotlight-on-illegal-practices-within-ghanas-industrial-trawl-sector>.
- 5 Cohen, P., Allison, E., Andrew, N., Cinner, J. et al. Securing a just space for small-scale fisheries in the Blue Economy. *Frontiers in Marine Science*. 6. (171). 1-8.
- 6 Belhabib, D. (2018). The Criminal Record of Fisheries Vessels: Information displayed on the Spyglass.fish platform, available at: <https://spyglass.fish/>
- 7 Including Russia.
- 8 Convention on Biological Diversity. (2018). People depend on marine and coastal biodiversity for their livelihood. Available at: <https://www.cbd.int/article/food-2018-11-21-09-29-49>
- 9 FAO. (2020). The State of World Fisheries and Aquaculture 2020, Sustainability in Action. Rome.
- 10 Examples of reports that discuss the scale and scope of the CDWF are: ODI. (2020). China's distant-water fishing fleet, scale, impact and governance. Available at: https://cdn.odi.org/media/documents/chinesedistantwaterfishing_web.pdf and STIMSON. (2019). Shining a light: the need for transparency across distant water fishing. Available at: <https://www.stimson.org/wp-content/files/file-attachments/Stimson%20Distant%20Water%20Fishing%20Report.pdf>.
- 11 FAO. (2020). The State of World Fisheries and Aquaculture 2020, Sustainability in Action. Rome.
- 12 Vessels within the CDWF are allegedly heavily involved in illegal fishing practices and fisheries related crimes (reference to major news headlines, ODI report, GP report in WA, Oceana in Galapagos and IUU fishing index)
- 13 Mallory, T.G. (2013). China's distant water fishing industry: evolving policies and implications. *Marine Policy*, 38, 99-108.
- 14 Pauly, D. et al. (2013). China's distant-water fisheries in the 21st century. *Fish and Fisheries*, 15, 474-488.
- 15 Oceana. (2021). China's Fisheries Subsidies Propel Distant-Water Fleet. Available at: https://oceana.org/sites/default/files/994812/ChinaSubsidiesResearchSummary_Final.pdf.
- 16 Sumaila, U.R et al. (2019). Updated estimates and analysis of global fisheries subsidies. *Marine Policy*, 109, 103695.
- 17 Oceana. (2021). Assessing the spatial burden of harmful fisheries subsidies. Available at: https://oceana.org/wp-content/uploads/sites/18/OceanaDWF_FinalReport.
- 18 Oceana. (2021). China's Fisheries Subsidies Propel Distant-Water Fleet. Available at: https://oceana.org/sites/default/files/994812/ChinaSubsidiesResearchSummary_Final.pdf.
- 19 STIMSON. (2019). Shining a light: the need for transparency across distant water fishing. Available at: <https://www.stimson.org/wp-content/files/file-attachments/Stimson%20Distant%20Water%20Fishing%20Report.pdf>.
- 20 ODI. (2020). China's distant-water fishing fleet: Scale, impact and governance. Available at: https://cdn.odi.org/media/documents/chinesedistantwaterfishing_web.pdf.
- 21 Belhabib, D. (2018). The Criminal Record of Fisheries Vessels: Information displayed on the Spyglass.fish platform, available at: <https://spyglass.fish/>
- 22 It is noted that the term IUU fishing "incident" is used in this study. A single IUU fishing incident may be associated with multiple separate offences, e.g., fishing without a licence, document forgery and labour abuses. An IUU fishing incident is typically characterised by the arrest of a vessel on a specified date and subsequent investigation into the offences identified.
- 23 State Council. (2019). Regulations of the People's Republic of China on Disclosure of Government Information (中华人民共和国政府信息公开条例). Available at: http://www.gov.cn/zhengce/content/2019-04/15/content_5382991.htm.
- 24 Ministry of Agriculture and Rural Affairs. (2017). Notice of the General Office of the Ministry of Agriculture on Printing and Distributing the 2017 Work Plan for Overseas Inspection of Ocean Fishing Vessels and Overseas Examination and Assessment of Ocean Fishing Crews (农业部办公厅关于印发2017年度远洋渔船境外检验和远洋渔业船员境外考试考核工作计划的通知). Available at: http://www.moa.gov.cn/gk/tzgg_1/tfw/201701/t20170117_5440615.htm.
- 25 Ministry of Agriculture and Rural Affairs. (2020). Order of the Ministry of Agriculture and Rural Affairs of the People's Republic of China No. 2 (2020) (中华人民共和国农业农村部令2020年 第2号). Available at: http://www.moa.gov.cn/gk/tzgg_1/bl/202003/t20200310_6338553.htm.
- 26 For 2019, EJF could retrieve five notices of approved offshore fishery projects from the website of MARA (from the fourth "batch" to the eighth). For 2020, seven notices could be retrieved (from the first batch to the eighth, minus the second one).
- 27 EJF. (2020). EJF's Charter for Transparency. Bringing the fisheries sector out of the shadows. How best to implement principles three and four of the Charter for Transparency. Available at: https://ejfoundation.org/resources/downloads/Report_Principles-three-four-final.pdf.
- 28 For 2018, EJF could retrieve two MARA IUU fishing notices published on 20 March and 20 June 2018. For 2019, three notices could be retrieved (published on 1 August, 23 September, and 29 October 2019). For 2020, one notice published on 9 January 2020 was retrieved. These notices were titled "Notice of Illegal Issues and Handling Opinions of Some Distant Water Fishing Enterprises and Fishing Vessels"
- 29 In some instances, the initial notices and the final sanctioning decisions would be published in separate notices.
- 30 Ministry of Agriculture and Rural Affairs. (2021). Agriculture, Fishing Vessel and Port notice 2021 No. 7, Notice on the Request for Confirmation of Data to be Cleared for Distant Water Fishing Vessels. Available at: http://zjcmpublic.oss-cn-hangzhou-zwynet-d01-a.internet.cloud.zj.gov.cn/jcms_files/jcms1/web2801/site/attach/o/745c8a2e0bba45ff93076e9b9f16abe0.pdf
- 31 Vessels replacement ("更新改/建造") is to substitute an old vessel with a newly built or purchased one using the same Certificate of Configuration of Fishing Vessels, Nets and Gears. This system works similar to a vessel quota.
- 32 More details of the database, including its sources and limitations can be found here: <https://spyglass.fish/about>.
- 33 International Seafood Sustainability Foundation. (n.d.). Distant water fishing nations [DWFNs]. Available at: <https://iss-foundation.org/glossary/distant-water-fishing-nations/>.
- 34 Oceana. (2013). Ask Dr. Pauly: What are distant-water fishing fleets, and how do they affect overfishing? Available at: <https://usa.oceana.org/blog/ask-dr-pauly-what-are-distant-water-fishing-fleets-and-how-do-they-affect-overfishing/>.
- 35 Ministry of Agriculture and Rural Affairs. (2020). Order of the Ministry of Agriculture and Rural Affairs of the People's Republic of China No. 2 (2020) (中华人民共和国农业农村部令2020年 第2号). Available at: http://www.moa.gov.cn/gk/tzgg_1/bl/202003/t20200310_6338553.htm.
- 36 Given the Chinese government's definition of its DWF, data is unavailable for offences occurring within this region. Should data have been available, it is likely that these activities would radically change the panorama drawn in this section.
- 37 Ministry of Agriculture and Rural Affairs. (2020). Order of the Ministry of Agriculture and Rural Affairs of the People's Republic of China No. 2 (2020) (中华人民共和国农业农村部令2020年 第2号). Available at: http://www.moa.gov.cn/gk/tzgg_1/bl/202003/t20200310_6338553.htm.
- 38 EJF. (2018). China's hidden fleet in West Africa: A spotlight on illegal practices within Ghana's industrial trawl sector. Available at: <https://ejfoundation.org/reports/chinas-hidden-fleet-in-west-africa-a-spotlight-on-illegal-practices-within-ghanas-industrial-trawl-sector>.
- 39 Fisheries Transparency Index. (2021). Seychelles launches 1st FiTi report ever! Available at: <https://www.fiti.global/seychelles-launches-1st-fit-report-ever>
- 40 EJF. (2021). At what cost? How Ghana is losing out in fishing arrangements with China's distant water fleet. Available at: <https://ejfoundation.org/reports/at-what-cost-how-ghana-is-losing-out-in-fishing-arrangements-with-chinas-distant-water-fleet>.
- 41 FAO. (2011). Review of the state of world marine fishery resources. FAO fisheries and aquaculture technical paper. No. 569. Rome.
- 42 FAO. (2020). The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome
- 43 Bureau of Statistics (统计局). (2020). China Fishery Statistical Yearbook (中国渔业统计年鉴2020). Available at: <https://www.yearbookchina.com/naviBooklist-n3020013079-1.html>.
- 44 Ministry of Agriculture and Rural Affairs. (2020). White Paper on China's Offshore Fisheries Performance (2020) (中国远洋渔业履约白皮书(2020)). Available at: http://www.yyj.moa.gov.cn/gzdt/202011/t20201120_6356632.htm.
- 45 FAO. (2001). Sea Farming and Sea Ranching in China. Available at: <http://www.fao.org/3/y2257e/y2257e04.htm#bm04.1.3>.
- 46 Mallory, T.G. (2013). China's distant water fishing industry: evolving policies and implications. *Marine Policy*, 38, 99-108.
- 47 Bureau of Statistics (统计局). (2020). China Fishery Statistical Yearbook (中国渔业统计年鉴2020). Available at: <https://www.yearbookchina.com/naviBooklist-n3020013079-1.html>.
- 48 Ministry of Agriculture and Rural Affairs. (2021). "Thirteenth Five-Year" Fishery Highlights ("十三五" 渔业亮点连载 | 我国远洋渔业 "十三五" 发展亮点纷呈). Available at: http://www.yyj.moa.gov.cn/gzdt/202101/t20210104_6359366.htm.
- 49 Excluding Hong Kong and Macao
- 50 FAO. (2020). The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome.
- 51 Bureau of Statistics (统计局). (2020). China Fishery Statistical Yearbook (中国渔业统计年鉴2020). Available at: <https://www.yearbookchina.com/naviBooklist-n3020013079-1.html>.
- 52 Ministry of Agriculture and Rural Affairs. (2021). "Thirteenth Five-Year" National Offshore Fisheries Development Plan ("十三五" 全国远洋渔业发展规划). Available at: http://www.moa.gov.cn/gk/ghjh_1/201712/t20171227_6128624.htm.

- 53 For instance, Fuzhou's goal is to increase the number of vessels to 600 by 2020. Bureau of Ocean and Fisheries of Fuzhou city. (2015). Policy Interpretation of the "Ten Measures to Further Accelerate the Development of Distant Water Fishing. Available at: http://www.fuzhou.gov.cn/zqjd/bz/201711/t20171127_1894422.htm.
- 54 Ministry of Finance, Ministry of Agriculture and Rural Affairs. (2015) Adjustment of fuel subsidy policy for domestic fisheries fishing and aquaculture to promote sustainable and healthy development of fisheries. Available at: http://www.gov.cn/xinwen/2015-07/13/content_2895987.htm.
- 55 For instance, Shandong Bureau of Ocean and Fisheries. (2018). Action plan for building a strong marine province in Shandong. Available at: <https://www.waizi.org.cn/policy/60046.html>; Fujian Bureau of Ocean and Fisheries. (2021). Fujian's RMB 1 trillion investment for promoting the project implementation for a strong marine province during the "14th Five-Year Plan". Available at: http://www.fj.xinhuanet.com/yuanchuang/2021-07/09/c_1127638534.htm; Zhejiang Bureau of Ocean and Fisheries. (2021). Notice of the "Fourteenth Five-Year Plan" for the Development of Zhejiang Provincial Ocean Economy. Available at: http://www.zj.gov.cn/art/2021/6/4/art_1229019364_2301508.html.
- 56 Qingdao Daily. (2012). Qingdao's offshore fishing industry has survived a decade of glory (青岛远洋渔业历经十年辉煌). Available at: https://finance.qingdaonews.com/content/2012-12/07/content_9522840.htm.
- 57 FAO. (2020). The State of World Fisheries and Aquaculture 2020. Sustainability in Action. Rome.
- 58 The FAO does not specify what should be understood by "distant-water fishery" (i.e., whether it only includes distant-water fishing vessels flying the flag of China or Chinese distant-water fishing vessels irrespective of their flag). However, EJJ notes that the figure mentioned in the FAO report corresponds with figures published by China in its fishery statistical yearbooks which are understood to cover all Chinese distant-water fishing vessels irrespective of their flag.
- 59 FAO. (2020). The State of World Fisheries and Aquaculture 2020., Sustainability in Action. Rome.
- 60 FAO. (n.d.). FAO Major Fishing Areas. Available at: <http://www.fao.org/fishery/area/search/en>.
- 61 Greenpeace Africa and Changing Markets. (2021). Feeding a monster: How European aquaculture and animal feed industries are stealing food from West African communities. Available at: <http://changingmarkets.org/wp-content/uploads/2021/05/Feeding-a-Monster-EN-low-res.pdf>.
- 62 95.3% of the approved offshore fishery projects relating to the Pacific Ocean are assessed by EJJ to cover tuna and tuna-like fisheries whilst the areas mentioned as North Pacific, Northwest Pacific and Southeast Pacific are usually associated with non-tuna and tuna-like fisheries (e.g. squid and small pelagics (such as mackerel, sardine, saury)). A similar distinction is made in the Atlantic Ocean with the projects related to the Southwest Atlantic covering squid fisheries whilst the category 'Atlantic Ocean' relates to tuna and tuna-like fisheries. No such distinction is made in the Indian Ocean though different types of fisheries are also found (e.g. tuna and squid).
- 63 FAO. (2005). Fisheries and Resources Monitoring System. Review of the state of world marine fishery resources 2005. Squid - Global. Available at: <http://firms.fao.org/firms/resource/13335/en>.
- 64 Stop Illegal Fishing, Trygg Mat Tracking and NFDS. (2017). Squid capture in the Northwest Indian Ocean: unregulated fishing on the high seas. Gaborone, Botswana. Available at: https://fish-i-network.org/wp-content/uploads/2017/06/Squid_capture_in_the_NWIO_FINAL_LR.pdf.
- 65 WWF, Trygg Mat Tracking. (2020). Unregulated fishing on the high seas of the Indian Ocean: the impacts on, risks to, and challenges for sustainable fishing and ocean health. Available at: https://wwf-eu.awsassets.panda.org/downloads/wwftmt_unregulated_fishing_on_the_high_seas_of_the_indian_ocean_2020.pdf.
- 66 Ministry of Agriculture and Rural Affairs. (2020). Notice of the Ministry of Agriculture and Rural Affairs on Strengthening the Conservation of Squid Resources on the High Seas and Promoting the Sustainable Development of the country's Offshore Fisheries (农业农村部关于加强公海鱿鱼资源养护 促进我国远洋渔业可持续发展的通知). Available at: http://www.moa.gov.cn/nybg/b/2020/202007/202008/t20200811_6350178.htm.
- 67 Bureau of Statistics (统计局). (2020). China Fishery Statistical Yearbook (中国渔业统计年鉴2020). Available at: <https://www.yearbookchina.com/naviBooklist-n3020013079-1.html>.
- 68 China Overseas Fisheries Association, Zhoushan National Oceanic Fishery Base Construction Development Group Co., Ltd.. (n.d.). Oceanic squid index of China (中国远洋鱿鱼指数). Available at: <https://www.china-squid.com>
- 69 Miller, N. et al. (2018). Identifying global patterns of transshipment behaviour. *Frontiers in Marine Science*, 240(5). 0.
- 70 EJJ. (2020). EJJ's Charter for Transparency. Bringing the fisheries sector out of the shadows. How best to implement principles three and four of the Charter for Transparency. Available at: https://ejf.foundation.org/resources/downloads/Report_Principles-three-four-final.pdf.
- 71 As outlined in the 'undercounting of the CDWF' section of the methodology.
- 72 Zhoushan Offshore Fisheries Association. (2019). Chronology of the development of offshore squid fishing in Zhoushan (1989 - 2019). Available at: http://www.zhoushan.cn/pd/youdiao/licheng/201909/t20190911_941886.html.
- 73 Currently, the three largest national DWF bases in China are the tuna base of Rongcheng (Shandong province) in the northwest; the squid base of Zhoushan (Zhejiang province) in the central-west; and Lianjiang Fuzhou (Fujian province) in the southwest. They all have sophisticated processing plants and cold chain logistics.
- 74 Wang Zhenquan, Department of Finance, Zhejiang province, PRC. (2019). Financial outlook to promote the high-quality development of offshore fishing in Zhejiang Province. Available at: http://czt.zj.gov.cn/art/2019/11/22/art_1228972395_40466103.html.
- 75 Dependency model (挂靠): Individual vessel owners join DWF enterprises with qualification by paying a fixed annual "dependency fee", enabling the vessels to make use of fishing quota obtained by/allocated to DWF enterprises approved by MARA. However, the ownership, investment, production and operation of the vessel, including recruitment of crew, sales of fishery products and mortgage financing, etc., are all decided by the individual vessel owners. The company does not intervene or have the right to involve itself in the commercial decisions of independently operated fishing vessels.
- 76 Xinhua News Agency. (2017). Zhejiang Zhoushan builds the first high seas mobile base and South American office. Available at: http://www.gov.cn/xinwen/2017-04/26/content_5189059.htm.
- 77 Chinese People's Political Consultative Conference Zhoushan Putuo District Committee. (2020). Suggestions on Solving the Sustainable Development of Cooperative Marketing of Pelagic Squid Fishing (关于解决远洋鱿渔业合作销售可持续发展的建议). Available at: <http://ptzx.putuo.gov.cn/sqmy/zbszx/2021/921311201132722.html>.
- 78 Financial News. (2021). Putuo Rural Commercial Bank's three innovations help offshore fisheries tide over the epidemic. Available at: https://www.financialnews.com.cn/ncjr/nsh/202101/t20210128_210782.html.
- 79 Stock.us. (n.d.). Main clients of CNFC. Available at: <https://stock.us/cn/stock/sz/000798/footnotes/customer-supplier/customer>.
- 80 Wang Zhenquan, Department of Finance, Zhejiang province, PRC. (2019). Financial outlook to promote the high-quality development of offshore fishing in Zhejiang Province.
- 81 Subaoxw. (2021). Sixty percent of the squid in the country is processed here in Shandong. Available at: <http://sd.subaoxw.com/sdyw/2021/1022/25281.html>.
- 82 Zhoushan City Government. (2020). Several policies for accelerating the high-quality development of offshore fishing in Zhoushan. Available at: http://xxgk.zhoushan.gov.cn/art/2020/8/18/art_1229433794_38630.html.
- 83 Hong Dong Fishery website. Available at: <http://www.fzhongdong.com>
- 84 Marcus Aurelius Value. (2017). Pingtan Marine: A Fraud That Finances Human Trafficking and Poaching. Available at: <http://www.mavalue.org/research/pingtan-marine-fraud-finance-human-trafficking-poaching>.
- 85 Chinese Academy of Fishery Sciences, Yellow Sea Fisheries Research Institute. (2021). Fujian builds a strong ocean fishery province, leading the country in comprehensive strength (福建打造远洋渔业强省 综合实力全国领先). Available at: <http://www.ysfri.ac.cn/info/1110/36320.htm>.
- 86 Zhou, C. (2020). The Truth Behind The Intrusion Of A Chinese Vessel Carrying More Than 6000 Sharks Into The Galapagos Marine Reserve In 2017. Available at: <https://tangchuanc.medium.com/the-truth-behind-the-intrusion-of-a-chinese-vessel-carrying-more-than-6000-sharks-into-the-2cae00bcb4d0>.
- 87 China shark products cooperatives. (n.d.). Home. Available at: <http://www.china-shark.com>.
- 88 Marcus Aurelius Value. (2017). Pingtan Marine: A Fraud That Finances Human Trafficking and Poaching. Available at: <http://www.mavalue.org/research/pingtan-marine-fraud-finance-human-trafficking-poaching>.
- 89 China shark products cooperatives. (n.d.). Home. Available at: <http://www.china-shark.com>.
- 90 Fujian Provincial People's Government. (2021). Notice of the General Office of the People's Government of Fujian Province on Eight Measures to Promote the High-quality Development of Ocean Fisheries (福建省人民政府办公厅关于推动远洋渔业高质量发展八条措施的通知). Available at: <https://fdi.swt.fujian.gov.cn/show-10571.html>.
- 91 Bureau of Ocean and Fisheries of Fuzhou city. (2020). Fuzhou Municipal Bureau of Ocean and Fisheries Special Funds for Offshore Fisheries - Project Performance Evaluation Report (福州市海洋与渔业局远洋渔业专项资金项目绩效评价报告). Available at: https://hyj.fuzhou.gov.cn/zz/zgwkg/zjxx/202107/t20210712_4138495.htm.
- 92 Ibid.
- 93 Chinese Academy of Fishery Sciences, Yellow Sea Fisheries Research Institute. (2021). Fujian builds a strong ocean fishery province, leading the country in comprehensive strength (福建打造远洋渔业强省 综合实力全国领先). Available at: <http://www.ysfri.ac.cn/info/1110/36320.htm>.
- 94 Beijing Yachao Asset Appraisal Co., Ltd. (2014). Note on the valuation of all shareholders' equity of Zhongyu Global Seafood Co. due to asset integration initiated by CNFC Overseas Fisheries Co., Ltd (中水集团远洋股份有限公司拟重组中渔环球海洋食品有限责任公司所涉及的中渔环球海洋食品有限责任公司股东全部权益评估说明). Available at: http://quotes.money.163.com/fio/gmx_000798_1642105.html.
- 95 State-owned Assets Supervision and Administration Commission Party Committee, Propaganda Department (2017). 54 中水渔业斐济代表. Available at: <http://www.sasac.gov.cn/n4470048/n4470081/n7500405/n7500420/n7500435/c7504771/content.html>.
- 96 Ministry of Commerce, Economic and Commercial Office of the Embassy of the People's Republic of China in the Republic of Vanuatu. (2016). Trial operation of Zhongwa Fishery Company. Available at: <http://vu.mofcom.gov.cn/article/jmxw/201611/20161101610395.shtml>.
- 97 NetEase. (2019). The commencement ceremony of Sino-Vanuatu Fishery Company was held in Port Vila, the capital of Vanuatu. Yu Difei, Chairman of China Agricultural Development Group, attended the ceremony. Available at: <https://www.163.com/dy/article/ESTEVSR30550A54Z.html>.
- 98 China National Agricultural Development Group Co., Ltd., China State Farm Agribusiness Group Co., Ltd. (2019). China Agricultural Development Group Chairman Yu Difei Meets with the Prime Minister of Vanuatu. Available at: <https://csfa.cnadc.com.cn/jtyw/10924.jhtml>.

- 99 Reuters. (n.d.). Shandong Zhonglu Oceanic Fisheries Co. Available at: <https://www.reuters.com/companies/200992.SZ>.
- 100 Reuters. (n.d.). Shandong Homy Aquatic Development Co. Ltd. Available at: <https://www.reuters.com/companies/600467.SS>.
- 101 China Canned Food Industry Association. (2020). One tuna, one industrial chain (一条金枪鱼, 一条产业链). Available at: <http://www.topcanchina.com/hyzz/10788>.
- 102 Ibid.
- 103 Qingdao Municipal Marine Development Bureau. (2013). Opinions of Qingdao Municipal People's Government on Accelerating the Development of Offshore Fishing (青岛市人民政府关于加快远洋渔业发展的意见). Available at: <https://www.zyszhjha.com/n12479801/n12480099/n12480192/151212120419454215.htm>.
- 104 Qingdao Municipal Bureau of Statistics. (2015). Qingdao's "blue granary" construction is beginning to bear fruit (青岛市“蓝色粮仓”建设初见成效). Available at: <http://qdtj.qingdao.gov.cn/n28356045/n32561056/n32561071/n32562216/180324165657258043.html>.
- 105 Qingdao Daily. (2012). Qingdao's offshore fishing industry has survived a decade of glory (青岛远洋渔业历经十年辉煌). Available at: https://finance.qingdaonews.com/content/2012-12/07/content_9522840.htm.
- 106 SeafoodSource. (2021). Qingdao distant-water fleet grew 17-fold in past eight years. Available at: <https://www.seafoodsource.com/news/premium-supply-trade/qingdao-distant-water-fleet-grew-17-fold-in-past-eight-years>.
- 107 Caitong Securities Co., Ltd. (2021). The prospectus for initial public offerings (IPO) of Zhejiang Ocean Family Co., Ltd. (浙江大洋世家股份有限公司首次公开发行股票招股说明书). Available at: https://pdf.dcfw.com/pdf/H2_AN202106281500540089_1.pdf.
- 108 Wanxiang Daily (万向报 版权所有). (2021). Ocean Family's newly built large fishing boat was launched smoothly (大洋世家新建大型渔船顺利下水). Available at: <http://www.cnenpaper.net/html/198/2021/04/05/1.html>.
- 109 Zsdinghai. (2021). Zhoushan's tuna industry is growing rapidly in "adversity" (舟山金枪鱼产业“逆境”中快速成长). Available at: http://dhnews.zjol.com.cn/xinwenzonglan/zhoushanxinwen/202102/t20210201_3597782.shtml.
- 110 Caitong Securities Co., Ltd. (2021). The prospectus for initial public offerings (IPO) of Zhejiang Ocean Family Co., Ltd. (浙江大洋世家股份有限公司首次公开发行股票招股说明书). Available at: https://pdf.dcfw.com/pdf/H2_AN202106281500540089_1.pdf.
- 111 Ynet.com. (2019). Ocean Family: China's big tuna player (大洋世家: 中国金枪鱼大玩家). Available at: <http://life.ynet.com/2019/06/04/18643961978.html>.
- 112 Zhejiang Ocean Family QCC page. Available at: <https://www.qcc.com/firm/gfffc8981bf1630b586e6833c9fa162.html>.
- 113 Executive Office of the President, Office of the U.S. Trade Representative (USTR). (2018). Findings of the investigation into China's acts, policies, and practices related to technology transfer, intellectual property, and innovation under Section 301 of the Trade Act of 1974. Available at: <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF>.
- 114 For instance, the following statement can be found in Wanxiang's newsletter, "...The implementation of the new purse seiner project is highly compatible with the national development strategy of joining hands to build a community of maritime destiny and promoting the Belt and Road Initiative". Wanxiang Daily (万向报 版权所有). (2021). Ocean Family's newly built large fishing boat was launched smoothly (大洋世家新建大型渔船顺利下水). Available at: <http://www.cnenpaper.net/html/198/2021/04/05/1.html>.
- 115 Executive Office of the President, Office of the U.S. Trade Representative (USTR). (2018). Findings of the investigation into China's acts, policies, and practices related to technology transfer, intellectual property, and innovation under Section 301 of the Trade Act of 1974. Available at: <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF>.
- 116 Businesswire. (2014). China Tuna Industry Group Holdings Co., Ltd. withdraws IPO application (中国金枪鱼产业集团控股有限公司撤回IPO申请). Available at: <https://www.businesswire.com/news/home/20141209006754/zh-CN/>.
- 117 SeafoodSource. (2014). China Tuna pulls IPO amid fishing criticism. Available at: <https://www.seafoodsource.com/news/environment-sustainability/china-tuna-pulls-ipo-amid-fishing-criticism>.
- 118 Stuff. (2014). China Tuna suspends IPO. Available at: <https://www.stuff.co.nz/business/10529956/China-Tuna-suspends-IPO>.
- 119 China Business Network. (2018). The background story of Dalian Longtai and the Dalian Tuna Fishing which were under the authority's scrutiny (被监管关注的大连隆泰和背后的金枪鱼钓是什么来头). Available at: <https://www.yicai.com/news/100081376.html>.
- 120 EJP. (2021). A human rights lens on the impacts of industrial illegal fishing and overfishing on the socio-economic rights of small-scale fishing communities in Ghana. Available at: <https://ejfoundation.org/reports/a-human-rights-lens-on-the-impacts-of-industrial-illegal-fishing-and-overfishing-on-the-socio-economic-rights-of-small-scale-fishing-communities-in-ghana>.
- 121 Sea Shepherd. (2019). Sea Shepherd assists Liberian Coast Guard in arrest of cargo vessel on suspicion of identity fraud and IUU fishing. Available at: <https://www.seashepherdglobal.org/latest-news/sea-shepherd-assists-liberian-coast-guard-in-arrest/>.
- 122 Sea Shepherd. (2020). Another two trawlers arrested in the Gambia. Available at: <https://www.seashepherdglobal.org/latest-news/two-trawlers-arrested-gambia/>.
- 123 Research found public revenues equating to 2%-8% of the estimated landed value of the harvest in three out of four West African countries studied: Virdin, J., Kobayashi, M., Akester, S., Vegh, T. and Cunningham, S. (2019) West Africa's coastal bottom trawl fishery: initial examination of a trade in fishing services. *Marine Policy*, 100, 288–297. See also: EJP (2021). At what cost? How Ghana is losing out in fishing arrangements with China's distant water fleet. Available at: <https://ejfoundation.org/reports/at-what-cost-how-ghana-is-losing-out-in-fishing-arrangements-with-chinas-distant-water-fleet>.
- 124 Jones, J. B. (1992). Environmental impact of trawling on the seabed: a review. *New Zealand Journal of Marine and Freshwater Research*, 26, 59–67; Watling, L. and Norse, E.A. (1998). Disturbance of the Seabed by Mobile Fishing Gear: A Comparison to Forest Clearcutting. *Conservation Biology*. 12(6), 1180–1197; Vincent, A. and Zhang, X. (in prep.). China's bottom trawl fisheries and their global impact.
- 125 EJP. (2021). A human rights lens on the impacts of industrial illegal fishing and overfishing on the socio-economic rights of small-scale fishing communities in Ghana. Available at: <https://ejfoundation.org/reports/a-human-rights-lens-on-the-impacts-of-industrial-illegal-fishing-and-overfishing-on-the-socio-economic-rights-of-small-scale-fishing-communities-in-ghana>.
- 126 EJP. (2021). Recommendations for the reform of Ghana's Inshore Exclusion Zone (IEZ) reserved for small-scale fishing activities. Available at: https://ejfoundation.org/resources/downloads/Briefing_extension_IEZ_boundary-2021-v2a.pdf.
- 127 Ibid.
- 128 EJP and Hen Mpoano. (2019). Stolen at sea. How illegal 'saiko' fishing is fuelling the collapse of Ghana's fisheries. Available at: https://ejfoundation.org/resources/downloads/Stolen-at-sea_06_2019.pdf.
- 129 EJP. (2021). Powerless bystanders: Ghana's fisheries observers struggle to curb crimes and ensure their own safety at sea. Available at: <https://ejfoundation.org/resources/downloads/EJP-Powerless-bystanders-2021-final.pdf>.
- 130 Lazar, N. et al. (2020). Status of the small pelagic stocks in Ghana in 2019. Scientific and Technical Working Group. USAID/Ghana Sustainable Fisheries Management Project (SFMP). See also: EJP (2020). The "people's" fishery on the brink of collapse: Small pelagics in landings of Ghana's industrial trawl fleet. Available at: <https://ejfoundation.org/reports/the-peoples-fishery-on-the-brink-of-collapse-small-pelagics-in-landings-of-ghanas-industrial-trawl-fleet>; Anum-Doyi, B. et al. (2019) Technical audit of fishing gears used by industrial trawlers in Ghana. Report of a study commissioned by the Fisheries Commission Board. October 2019. Unpublished; Aheto, D.W. et al. (in prep.). Fish species transhipped at sea (Saiko fish) in Ghana with a note on implications for marine conservation. Preprint. Available at: <https://www.researchsquare.com/article/rs-41329/v1>.
- 131 Unspecified high seas areas - presumably beyond RFMO jurisdiction.
- 132 Vessel/gear type was not specified in 48% of IUU fishing offences identified for West Africa.
- 133 Including vessels flying the flag of China, and those flying third country flags but with presumed Chinese beneficial ownership. See Pauly et al. (2014). China's distant-water fisheries in the 21st century. *Fish and Fisheries*, 15, 474–488.
- 134 Pauly et al. (2014). China's distant-water fisheries in the 21st century. *Fish and Fisheries*, 15, 474–488.
- 135 It should be noted however that these countries are subject to the 'spotlight' effect mentioned previously in the report, in which particular flag and coastal states have received high levels of attention from NGOs and the media.
- 136 Ghanaian Ministry of Fisheries and Aquaculture Development. (2010). Republic of Ghana fisheries and aquaculture sector development plan 2011–2016. Available at: <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC178892/>.
- 137 Nolan, C. (2019). Power and access issues in Ghana's coastal fisheries: A political ecology of a closing commodity frontier. *Marine Policy*, 108, 103621.
- 138 Ofakor-Yarwood, I., van den Berg Bhagwandass, S. (2021). Financial security needed for women in West African fisheries. *World Economic Forum*. Available at: <https://www.weforum.org/agenda/2021/05/why-women-in-the-west-african-fishing-industry-need-more-financial-safety-nets>.
- 139 Nolan, C. (2019). Power and access issues in Ghana's coastal fisheries: A political ecology of a closing commodity frontier. *Marine Policy*, 108, 103621.
- 140 Thorpe, A. et al. (2014). "Fishing na everybody business": Women's work and gender relations in Sierra Leone's fisheries. *Feminist Economics*, 20(3), 53–77.
- 141 Global Fishing Watch. (2020). Follow the lights: squid fishing in the southeast Pacific Ocean. Available at: <https://globalfishingwatch.org/fisheries/squid-fishing-southeast-pacific/>.
- 142 Oceana. (2021). Now you see me, now you don't: Vanishing vessel along Argentina's waters. Available at: <https://zenodo.org/record/4893397#.YgpRyi-l1QI>.
- 143 WWF and Trygg Mat Tracking. (2020). Unregulated fishing on the high seas of the Indian Ocean: The impacts on, risks to, and challenges for sustainable fishing and ocean health. Available at: https://wwfeu.awsassets.panda.org/downloads/wwftmt_unregulated_fishing_on_the_high_seas_of_the_indian_ocean_2020.pdf.
- 144 Ibid.
- 145 In some instances RFMO jurisdictions overlap with a country's EEZ. Where a country and an RFMO are compared alongside one another, the figures given for the RFMO refer to its high seas area.
- 146 In some instances RFMO jurisdictions overlap with a country's EEZ. Where a country and an RFMO are compared alongside one another, the figures given for the RFMO refer to its high seas area.
- 147 In some instances RFMO jurisdictions overlap with a country's EEZ. Where a country and an RFMO are compared alongside one another, the figures given for the RFMO refer to its high seas area.
- 148 Based on the stratification provided by the Spyglass database, EJP pooled similar offences together and formed the categories listed. Please note that during a seizure/checkup of a vessel, multiple infringements could be found

onboard. Hence, adding up the “percentage of total” column of this table will end up with a number higher than 100%.

149 The number of individual offences may be more than the total number of IUU fishing incidents, as a single incident may consist of multiple different offences.

150 The number of individual offences may be more than the total number of IUU fishing incidents, as a single incident may consist of multiple different offences.

151 EJF. (2019). Blood and water: Exploring the links between illegal fishing and human rights abuses. Available at: <https://ejfoundation.org/reports/blood-and-water-human-rights-abuse-in-the-global-seafood-industry>.

152 Links between IUU fishing and human rights are increasingly being discussed. See for example: Mackat, M. et al. (2020). The intersection between illegal fishing, crimes at sea, and social well-being. *Frontiers in Marine Science*, 7; and Fishwise. (2018). The links between IUU fishing, human rights, and traceability. Available at: <https://fishwise.org/wp-content/uploads/2018/03/The-Links-between-IUU-fishing-human-rights-and-traceability.pdf>.

153 CBP. (2021). CBP issues release order on Chinese fishing fleet. Available at: <https://www.cbp.gov/newsroom/national-media-release/cbp-issues-withhold-release-order-chinese-fishing-fleet>.

154 This list of offences are an adapted version of the ILO Indicators of Forced Labour: ILO (2012). Indicators of Forced Labour. Available at: https://www.ilo.org/global/topics/forced-labour/publications/WCMS_203832/lang-en/index.htm.

155 EJF. (2020). Fear, hunger and violence: Human rights in Ghana's industrial trawl fleet. Available at: https://ejfoundation.org/resources/downloads/EJF_Ghana-human-rights-in-fisheries_2020_final.pdf.

156 A more detailed overview of the case can be found at: APIL et al. (2020). A briefing on Longxing 629: A case of illegal, unreported and unregulated (IUU) fishing activities and related human rights abuses on a tuna longliner. Available at: <https://foeasiapacific.org/wp-content/uploads/2020/07/Appendix-2-A-Briefing-on-Longxing-629-written-by-Korea-IUU-Coalition.pdf>

157 EJF. (2020). Four die on Chinese vessel allegedly fishing illegally. Available at: <https://ejfoundation.org/news-media/four-crew-from-chinese-fishing-vessel-die-allegedly-denied-medical-care>.

158 EJF. (2019). Blood and water: Human rights abuses in the global seafood industry. Available at: <https://ejfoundation.org/resources/downloads/Blood-water-06-2019-final.pdf>.

159 Nusa Daily. (2020). Become the Victims of Forced Labor on Chinese Fishing Vessels, Two Indonesian Crews Plunge into the Sea. Available at: <https://nusadaily.com/news/become-the-victims-of-forced-labor-on-chinese-fishing-vessels-two-indonesian-crews-plunge-into-the-sea.html>.

160 Greenpeace. (2019). Seabound: The journey to modern slavery on the high seas. Available at: <https://www.greenpeace.org/static/planet4-southeastasia-stateless/2019/12/c4f6f6b4-greenpeace-seabound-b.pdf>.

161 EJF. (2020). Fear, hunger and violence: Human rights in Ghana's trawl sector. Available at: https://ejfoundation.org/resources/downloads/EJF_Ghana-human-rights-in-fisheries_2020_final.pdf.

162 For instance, Pingtan Marine Enterprise owns at least two companies domiciled in Indonesia but off the record in China. Aurelius Value. (2017). Pingtan Marine: A Fraud That Finances Human Trafficking and Poaching. Available at: http://www.mavalue.org/research/pingtan-marine-fraud-fines-human-trafficking-poaching/?_cf_chl_managed_tk__=pmd_pz_Pl9b3Q5yFVlC3nJSQA0Yr1KPWei1HnoxbofqmTMh7M-1634744788-o-gqNtZGzNAyWjcnBszRZL.

163 Ministry of Agriculture and Rural Affairs. (2018). Circular of the General Office of the Ministry of Agriculture and Rural Affairs on the investigation and handling opinions of some offshore fishery enterprises and fishing boats suspected of violating laws and regulations.

164 Most of Fuzhou Dongxinlong's vessels were sold and transferred after their qualification was cancelled by MARA due to IUU fishing, however, their current record on Sea-Web remained to be 8 vessels.

165 There were several cases of vessel transfer between Huali and other squid fishing companies in Zhoushan in recent years. However, the record on Sea-Web remained to be four vessels.

166 EJF. (2021). At what cost? How Ghana is losing out in fishing arrangements with China's distant water fleet. Available at: <https://ejfoundation.org/reports/at-what-cost-how-ghana-is-losing-out-in-fishing-arrangements-with-chinas-distant-water-fleet>.

167 Orbis database of company information: orbis.bvdinfo.com. Accessed 5.3.21.

168 Shandong State-owned Assets Investment Holding Co., Ltd. (2014). Shandong Zhonglu Ocean Fishery Co., Ltd. (山东省中鲁远洋渔业股份有限公司). Available at: http://www.sdgzkg.com/art/2014/6/30/art_22_1225.html.

169 Sohu. (2020). Set sail and strive for success-Shandong Ocean Fishery Co., Ltd. set sail successfully for the new fishing project of Shandong Ocean Fishery Co., Ltd. in Morocco (扬帆起航 争创佳绩——山东省远洋渔业有限公司驻摩洛哥渔业项目新造渔船胜利启航). Available at: https://www.sohu.com/a/411624888_100023701.

170 Ministry of Agriculture and Rural Affairs. (2020). Notice of the Ministry of Agriculture and Rural Affairs on confirming the fifth batch of offshore fishery projects in 2019 (农业农村部关于确认2019年度第五批远洋渔业项目的通知). Available at: http://www.moa.gov.cn/nybg/2019/201908/202001/t20200109_6334599.htm.

171 Weihai Municipal People's Government, Foreign Affairs Office. (2021). Argentine Ambassador to China Niu Wangdao and his party visited (阿根廷驻华大使牛望道一行来访). Available at: http://wb.weihai.gov.cn/art/2021/10/20/art_13510_2695071.html.

172 EJF. (2021). At what cost? How Ghana is losing out in fishing arrangements with China's distant water fleet. Available at:

<https://ejfoundation.org/reports/at-what-cost-how-ghana-is-losing-out-in-fishing-arrangements-with-chinas-distant-water-fleet>.

173 China Dialogue Ocean. (2019). Investigation ties foreign-owned trawlers to illegal fishing in Ghana. Available at: <https://chinadialogueocean.net/10050-investigation-illegal-fishing-in-ghana-pt-1/>.

174 Ibid.

175 Export Genius. (n.d.). DALIAN MENGXIN OCEAN FISHERY CO L. Available at: <http://www.exportgenius.in/dalian-mengxin-ocean-fishery-co-l-importer-in-ghana>.

176 Glad Trust (格兰德企业信用管理). (n.d.). The clients of Dalian Kaiyang World Seafood (大连凯洋世界海鲜股份有限公司有哪些客户). Available at: <https://www.x315.cn/case/4FXMGU>.

177 'Dalian Meng Xin Ocean Fishery Co., Limited', Hong Kong Integrated Companies Registry Information System, accessed 5.2.21. <https://www.icris.cr.gov.hk/csci/>

178 Ministry of Agriculture and Rural Affairs. (2013). Notice of the General Office of the Ministry of Agriculture on the handling of violations of fishing boats by Dalian Lianrun Ocean Fishery Co., Ltd. (农业部办公厅关于大连连润远洋渔业有限公司渔船违规事件进行处理的通知). Available at: http://www.moa.gov.cn/govpublic/YJY/201308/t20130828_3589507.htm.

179 Ministry of Agriculture and Rural Affairs. (2019). Announcement on the investigation and handling opinions of some deep-sea fishery enterprises and fishing vessels suspected of violating laws and regulations (关于部分远洋渔业企业及渔船涉嫌违法违规调查情况和处理意见的通报). Available at: http://www.yyj.moa.gov.cn/gzdt/201909/t20190923_6328680.htm.

180 SeafoodSource. (2015). China tuna firm boasts 'record' catches in Pacific waters lured from US skipjack fleet. Available at: <https://www.seafoodsource.com/news/supply-trade/china-tuna-firm-boasts-record-catches-in-pacific-waters-lured-from-us-skipjack-fleet>.

181 SeafoodSource. (2021). US issues order against Chinese fishing company accused of forced labor. Available at: <https://www.seafoodsource.com/news/environment-sustainability/us-issues-order-against-chinese-fishing-company-accused-of-forced-labor>.

182 Global Fishing Watch. (2017). Our data suggests transshipment involved in refrigerated cargo vessel just sentenced to \$5.9 million and jail time for carrying illegal sharks. Available at: <https://globalfishingwatch.org/impacts/policy-compliance/transshipment-involved-in-reefer-sentenced-for-carrying-illegal-sharks/>.

183 Fuzhou Municipal Bureau of Ocean and Fisheries. (2017). Proposed allocation of special funds for offshore fishing in Fuzhou (福州市远洋渔业专项资金拟分配表). Available at: http://hyj.fuzhou.gov.cn/zz/zwgk/tzgg_3361/201711/P020171107632692162872.pdf

184 US National Intelligence Council. (2016). Global Implications of Illegal, Unreported, and Unregulated (IUU) Fishing. Available at: <https://irp.fas.org/nic/fishing.pdf>.

185 Ministry of Agriculture and Rural Affairs. (2018). The General Office of the Ministry of Agriculture on some offshore fishery enterprises and Notification of fishing vessel violations of laws and regulations and their handling opinions (农业部办公厅关于部分远洋渔业企业及渔船违法违规问题和处理意见的通报). Available at: http://www.moa.gov.cn/nybg/2018/201803/201805/t20180528_6143244.htm.

186 Ministry of Agriculture and Rural Affairs. (2019). Regarding the suspected violations of laws and regulations by some deep-sea fishery companies and fishing boats Notification of investigation status and handling opinions (关于部分远洋渔业企业及渔船涉嫌违法违规问题调查情况和处理意见的通报). Available at: http://www.yyj.moa.gov.cn/gzdt/201909/t20190923_6328680.htm.

187 Ministry of Agriculture and Rural Affairs. (2018). Circular of the General Office of the Ministry of Agriculture and Rural Affairs on the investigation and handling opinions of some offshore fishery enterprises and fishing boats suspected of violating laws and regulations (农业农村部办公厅关于部分远洋渔业企业及渔船涉嫌违法违规问题调查情况和处理意见的通报). Available at: http://www.moa.gov.cn/nybg/2018/201806/201809/t20180904_6156764.htm

188 Hong Kong Free Press. (2016). Feature: After 'high seas pursuit', Sea Shepherd urges Beijing to prosecute illegal fishing fleet. Available at: <https://hongkongfp.com/2016/04/14/feature-high-seas-pursuit-sea-shepherd-urges-beijing-prosecute-illegal-fishing-fleet/>.

189 Birdlife, CFFA and WWF. (2020). 10 priorities for the future of Sustainable Fisheries Partnership Agreements. Available at: <https://www.cffacape.org/publications-blog/ten-priorities-for-the-future-of-sustainable-fisheries-partnership-agreements>

190 EU IUU Coalition. (2020). A comparative study of key data elements in import control schemes aimed at tackling illegal, unreported and unregulated fishing in the top three seafood markets: The European Union, the United States and Japan. Available at: <http://www.iuuwatch.eu/wp-content/uploads/2020/11/CDS-2020-report-EN-WEB-Nov-2020.pdf>.

191 Long Distance Advisory Council. (2021). LDAC recommendations for a level playing field for EU and non-EU fish products. Available at: https://ldac.eu/images/EN_LDAC_Advice_LPF_25May2021.pdf.

192 It is noted that links to Chinese beneficial ownership have not been established for all vessels in this table. For further details of ownership, see: EJF. (2021). At what cost? How Ghana is losing out in fishing arrangements with China's distant water fleet. Available at: <https://ejfoundation.org/reports/at-what-cost-how-ghana-is-losing-out-in-fishing-arrangements-with-chinas-distant-water-fleet>



EJF, Unit 417, Exmouth House 3/11 Pine Street, London, EC1R 0JH, UK
Tel: +44 (0) 207 239 3310 | Email: info@ejfoundation.org
www.ejfoundation.org | Registered charity, No. 1088128



Protecting People and Planet